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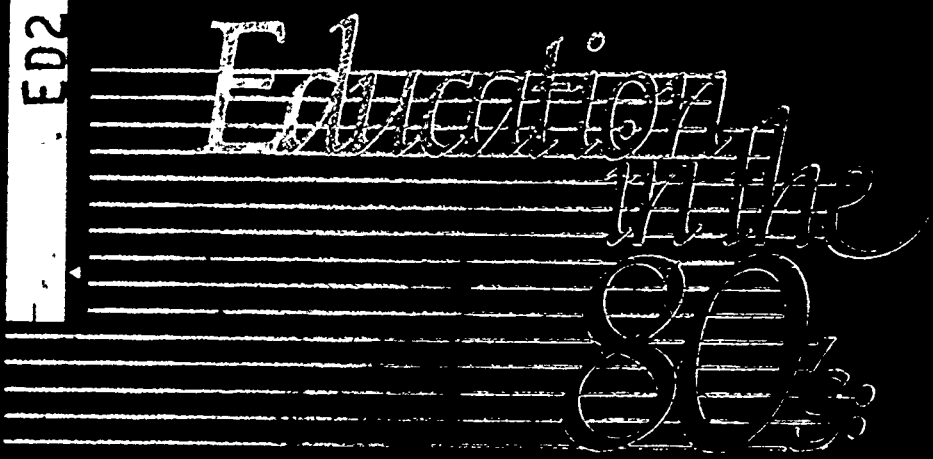
ABSTRACT

This collection of 13 articles by vocational educators discusses issues that confront vocational education in the 1980s. It is designed for the practicing vocational teacher and for persons who are enrolled in preservice vocational education courses. Two major themes running through the papers are: (1) the need to keep existing vocational education programs current with the changing requirements and new technology of the work setting; and (2) to improve articulation between secondary and postsecondary vocational programs in order to serve the needs of workers for entry-level education and for retraining throughout life. Topics covered in the papers include teacher training; professionalism; bridging the gap between general and vocational education; leadership; vocational education to meet the needs of minority groups; special students; youth unemployment; learning styles; career guidance and job placement; cooperative work experiences; youth organizations; energy expectations of the future; and adapting human resources to changing technology. Most of the articles are written by practicing vocational classroom teachers. A list of the contributors and their credentials is included in the book. (KC)



VOCATIONAL EDUCATION

Nancy K. Christian
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A National Education Association Publication

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Education in the 80's:

VOCATIONAL EDUCATION

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A major priority of vocational teachers in the 80's will be to keep existing vocational education programs current with changing requirements of the work setting. This will involve giving emphasis to those new worker competencies required as a result of industry revitalization, new inventions and technology, and new approaches to energy conservation and generation. The bottom line for those programs that do not stay current will be a product (vocational graduates) that cannot meet the needs of the labor market of the 80's.

A recent publication of the American Vocational Association, *Recommended Framework for Reauthorization of Vocational Education, Act of 1963* (Arlington, Va.; The Association, 1981), identified the following activities for staying current:

- Keeping vocational education equipment current with the level of technology used in business and industry
- Developing and procuring new curriculum and instructional materials
- Updating the skills of vocational education teachers in order to keep them current with the technology in their fields
- Updating and upgrading programs for all students who participate in vocational education
- Supporting the integration of vocational student organizations into the vocational curriculum
- Supporting state and local vocational leaders and administrators to work with teachers and community persons to help programs of vocational education stay current and in tune with local labor market expectations
- Recruiting and preparing instructors in new occupations where there is a shortage of instructors.

Another area of concern for vocational educators in the 80's will be to improve articulation between secondary and postsecondary vocational programs. As a result of the rapid changes in manufacturing

practices, many employees will require retraining or skill upgrading in order to maintain their employment. The increasing need for post-secondary or adult continuing education for additional specialized or advance training will also encourage vocational educators to look at a total, articulated vocational systems approach.

A total system concept of vocational education will provide a continuum of educational experience. Such a continuum will allow each student to develop to his or her maximum potential without any unnecessary duplication or delay in attaining his or her career goals.

Education in the 80's: Vocational Education discusses these and other issues that will confront vocational educators during the decade. As many of the contributors point out, change will be a fact of life for us all. It is therefore important to be prepared to deal with it and to help students deal with it as constructively as possible. The book contains many specific suggestions and ideas that I believe will be of value to vocational educators. I will mention only a few. Self-evaluation, for example, is a good method for teachers to use for checking on their progress and for improving their methods. The article on leadership should encourage many capable vocational educators to assume leadership roles, for which the need will be greater in the 80's. Teachers will also find the article on youth organizations a source of practical activities for students in all areas of the country, in urban as well as rural settings.

As an auto body repair shop teacher, I believe the 80's can be the best years that vocational educators have ever experienced if we are well informed and prepared to meet the needs and challenges that will arise.

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Introduction

Education in the 80's: Vocational Education is designed for the practicing vocational teacher and those individuals who are enrolled in pre-service vocational education courses. Knowledge of issues and trends confronting the profession is essential for competent performance in vocational classrooms, shops, and labs. With this framework in mind, the book concentrates on suggestions which can be either undertaken or accomplished in the current decade.

Vocational education in the United States has come to mean education for any occupation which normally requires less than a baccalaureate degree for the beginning worker. According to a 1980 American Vocational Association "fact sheet," vocational education is the segment of education charged with preparing people for work, including the occupation of homemaking. It is the backbone of the nation's employment-related education and training programs. Vocational education is more than just another federally funded program. It draws its strength from the fact that it is an integral part of the nation's public educational system, representing a joint federal, state, and local partnership, thus meeting the need for skilled workers.

Since passage of the Smith-Hughes Act in 1917, federal and state governments have supported vocational training for in-school youth and adults. Through this support the effectiveness of preparing workers for jobs has grown significantly. This does not mean, however, that the "fair-haired child" is forever blessed. Recent social, economic, and technological changes have impacted on vocational education. The status quo is no longer applicable.

The workplace for which vocational teachers train students has undergone a dramatic revolution. Greater changes can be predicted in the current decade. The "Information Age" is upon us, as evidenced by a mushrooming demand for trained data processors, for example. According to the Department of Labor, computer science occupations are expanding faster than jobs in any other field. Even after spectacular growth in the 1970's, employment in this field is projected to nearly double by 1990. Annual employment demand for new workers will be greatest for computer operators (46,200), followed by programmers

(25,000), systems analysts (21,200), and service technicians (8,800). While about 4,000 new keypunch operators are needed each year, their comparative role is diminishing as many users switch from batch to on-line processing (*Occupational Outlook Quarterly*, Summer 1981).

Some readers may be disturbed by the omission of certain special-interest topics from this book. *Education in the 80's: Vocational Education* concentrates on the concepts that potentially affect the entire field of vocational education and on the challenges that face all vocational educators, regardless of program area, teaching method, or specific curriculum content. In our opinion, an understanding of the "big picture" is of prime importance. We wish it were possible to include the viewpoints of all minorities in the book. However, this was not possible because of space limitations. Another important concern of vocational educators, since the passage of the 1976 Vocational Education Amendments, is sex equity. A separate article on this topic is not included as we believe that it is addressed in other articles.

The book is intended to be representative of national thinking. The issues it addresses affect all vocational educators. However, throughout the various articles, readers will find localized attempts at dealing with the challenges under discussion. This is because individual authors, most of whom are local vocational practitioners, drew from their own experiences in writing their articles. Vocational teachers and administrators can take these ideas, build upon them, and modify or adapt them to their particular circumstances as they work through the 80's.

In conclusion, in the 80's vocational education faces many challenges. Some opportunities for growth of the profession are detailed in the pages of this book. Others are yet to be discovered. An open mind, an optimistic outlook, and serious dedication to the task ahead are prerequisites for meeting the challenges of the 80's. In the words of one member of the Advisory Panel prior to the book's publication: "Vocational education must search through the maze of techniques and strategies, and adopt those that will provide each individual with the most learning for the least possible expenditure while remaining within the framework of full and equal opportunity." Therein lies our challenge.

Nancy K. Christian

ONE

Teacher Training: A New Look

Margaret R. Dewald-Link

Let me say at the outset that neither do I pretend to have a crystal ball nor do I claim to be privy to information unavailable to others. Rather, the contents of the paragraphs that follow tend to be the thoughts of many who are closely involved with vocational teacher education.* Economic, social, and political trends, as they are now emerging, will have a direct bearing on the process and content, if not the very existence, of vocational teacher education in the 80's. During this decade, and those that follow, vocational teacher education will face many challenges, choices, and changes. Those who are unwilling to accept the challenges, unable to make the choices, and undesirous of making the changes will be left behind, or left out of, the educational system.

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CHALLENGES

Several trends are now occurring within the economic, social, and political arenas. These trends will directly or indirectly influence the educational system, in general. Their influence can be guided or channeled so that they are beneficial to the system or they can be ignored. If they are ignored, the system will still be influenced. Either way, however, the trends will challenge the system to make choices and changes.

Economic Trends

State departments of education across the nation are reviewing their expenditures which, in part, support vocational teacher education programs in colleges and universities. The decade of the 70's saw the beginning of declining economic support for pre-service vocational teacher education at the same time that funding was increasing in areas of in-service, personnel development, curriculum development, and other related ancillary services. This trend will likely continue. Vocational teacher education programs in colleges and universities are more expensive to operate than other teacher education programs, with laboratories, equipment, and lower student–faculty ratio contributing to their higher costs. In addition, as the costs for equipment, services, and other resources continue to increase, the costs for maintaining and improving these programs increase proportionately. This situation is inevitable, and it is further complicated by the stabilized or declining enrollments found in most pre-service vocational teacher education programs.

In addition to the trend to reduce federal and state support for pre-service vocational teacher education programs in colleges and universities, the nation faces the problem of workers demanding more—wages, fringe benefits, shorter hours—and producing less. As the gross national product declines, the nation becomes less competitive selling goods in the international market. And as the demand for goods declines, the need for workers declines. The nation then faces higher costs and greater unemployment.

Thus there is no doubt that economic trends influence vocational teacher education. Consequently, there is a need to address such questions as the following:

1. How can we continue to have quality programs in a time of declining economic support?
2. In what ways can vocational teacher education contribute to worker productivity?

Social Trends

Trends related to the social arena will have a major impact on vocational teacher education programs in colleges and universities. Within the next 38 years, the population is projected to double. Although it is true that the birth rate in this country has stabilized somewhat, people are living longer. The over-60 portion of the population is the fastest growing group, and large numbers of people are moving into their 20's, 30's, and 40's. These social trends will greatly influence employment and the types of jobs available. For example, competition for jobs will be keener and many more service jobs should develop.

Further complicating the challenges of a larger and older population are the increasing numbers of dual-career marriages. Women have assumed a more active role in the work force and in financial support of their families. At the same time, there is some indication that men are assuming more responsibility in the home. Dual-career marriages and dual-role families will continue to increase because of social, emotional, and economic needs and benefits of such arrangements.

It is not necessary to ask if these social trends will influence vocational teacher education. It is necessary, however, to address such questions as the following:

1. What contribution can older persons make to vocational education and to vocational teacher education?
2. How can vocational teacher education programs prepare teachers for working with adults?
3. How can vocational education and vocational teacher education prepare people for newly developed jobs and competition for such jobs?
4. What role should vocational education and vocational teacher education play in preparing people for dual-career marriages and dual-role families?

Political Trends

During the past 20 years, vocational education legislation has provided challenges related to changes in emphasis. For example: (1) vocational education programs have been redefined to include programs within comprehensive high schools and community colleges; (2) groups such as the disadvantaged, those with exceptional needs, displaced homemakers, adults, and others have been specifically identified; and (3) emphasis has been placed upon cooperative education, energy edu-

cation, and consumer education. Consistent with the experience of the last two decades, the decade of the 80's will encounter new legislative mandates related to these and other areas. The new legislative challenges will have a major impact upon vocational teacher education in colleges and universities. Undoubtedly, they will influence the process and content of programs.

Another political trend which will impact upon vocational teacher education programs involves the increasing interest and legislation related to equality for all individuals. Federal laws already in effect provide for equal opportunity in education and employment. Vocational teacher education needs to be particularly sensitive to, and responsive in, this area.

Political trends therefore raise such questions as the following:

1. How can vocational teacher education influence the legislation under which it operates?
2. How can vocational teacher education respond to legislative recommendations and mandates?
3. What role can vocational teacher education play in providing equal opportunities in education and employment?

The economic, social, and political trends mentioned here in no way make up an exhaustive list. Other trends are also providing, or will provide, challenges to vocational teacher education. With each new trend and its subsequent challenges, there is a need to make choices.

CHOICES

Since passage of the Smith-Hughes Act in 1917, vocational teacher education has changed. Yet it is somewhat unclear if the changes have been drastic or superficial, and some would argue each side. What is clear is that vocational teacher education has often been caught in a reactive rather than a proactive mode. Newly formed task force groups and coalitions, designed to strengthen the position of vocational teacher education and provide political clout, are proving to be a step toward proactive involvement.

The decision to become proactive and futuristic in thinking may be the most critical choice to be made in vocational teacher education in the 80's. To be in the forefront, to set some trends, to acknowledge and guide others are three major components of proactivity. This does not mean waiting to see if the trends have any substantial meaning before

beginning to speculate on their possible impact on vocational teacher education. A wait-and-see attitude often causes larger problems, such as declining enrollment, low placement rate, and declining federal funds, requiring more drastic measures to address. Rather, what is needed is a what-if attitude. Speculating on developing trends and guiding their direction will help place vocational teacher education in a proactive mode. Thus, choosing to become proactive rather than reactive is critical.

CHANGES

Economic, social, and political trends, and the choice to become proactive indicate the need for changes in vocational teacher education programs. For the most part, the changes must occur in content and process. Content changes relate to the areas, the topics, and the concepts addressed, while process changes relate to the clientele and the types of delivery systems addressed.

Content

Each new round of vocational education legislation emphasizes new areas of content, including energy, adult education, and special needs. In addition to the areas added by legislation, other content areas, being identified through research, are necessary in vocational teacher education.

Studies have already begun on competencies needed by workers and by graduates of vocational teacher education programs. These research findings will have implications for program content at all levels of vocational education. Experimental research which identifies the factors that make one program more effective than another should take priority over descriptive research efforts. In addition, developmental research in the area of program standards should help assure the credibility of certification reciprocity based upon competency achievement. Programs should quickly address content changes indicated by such research.

Continued effort should be made to remove bias from the content of vocational teacher education programs. As women, older adults, and minorities continue their move into the job market, it becomes necessary to provide them with the competencies to obtain and retain satisfying employment. Concepts of equal opportunity, attitudes toward work, and dual role should be included as an integral part of all program service areas at the pre- and in-service levels.

One method which may help alleviate bias and at the same time increase the competencies of vocational teacher education graduates is the directed occupational experience. Certainly, experience working in the field in which one will be training others is a logical and feasible requirement for all graduates. It is also reasonable to assume that such a requirement will provide future teachers the opportunity to work with people different from themselves. The length of the experience and the degree of supervision may be left to the vocational teacher education program, but the value of a directed occupational experience is hard to debate and is a needed change in several service areas.

In many instances the need for changes occurs rapidly as new discoveries are made. Consequently, because of the rapidly changing environment, a renewed emphasis on problem-solving education is necessary. To teach what is known without teaching how to learn is a disservice. The changing world needs people who have developed skills for critical thinking to help promote and channel effective change. Within that realm, political awareness is a necessity.

Helping students in vocational teacher education develop competencies related to the political policymaking arena should go hand-in-hand with helping students develop professional competencies. Pre-service vocational teacher education programs need to include concepts related to the making and directing of policy and its impact upon vocational education and vocational teacher education. New political awareness can equip vocational teacher education graduates with the competencies necessary to become proactive in terms of legislation.

Process

As program content increases or changes, there are implications for changes in program process. If, in fact, additions to programs continue to increase—for example, meeting the needs of more diverse client groups—then the length of the vocational teacher education program at the undergraduate level must also increase, or a reorganization of priorities must occur. If the latter, then certain portions of the program will be deleted. It is entirely possible that programs will be five years in legnth, for example, or that the senior year will be devoted to an on-the-job supervised internship with methods integrated into the entire experience. Another possibility includes giving credit by examination for previous work and life experiences related to the competencies needed by the pre-service student. This is already happening in the area of vocational industrial education. Each possible program change must be

viewed in light of the declining undergraduate enrollment and the increasing older, nontraditional student population.

Vocational teacher education is rapidly approaching a time when the traditional classroom will no longer be the most efficient and effective means of instruction. The assumption here, of course, is that it once was. Rather, the increased development of technology, the continued emphasis on accountability and competency-based education, and the need to reach students who are generally older and more experienced in both life and work and who are not, or who do not desire to become, teachers will prompt major changes in the system as it is now known.

To "move the walls" of the traditional classroom and thereby develop closer linkages with members of the local community, including the business and industrial community, and educators in other institutions, both publicly and privately supported, will be a major change in the 80's. One example would be to develop close ties with teacher centers and provide leadership in terms of local in-service education. Such linkages would require a rethinking of credit hours and courses. To make changes related to these areas may mean the difference between involvement and noninvolvement in in-service teacher education. An implication of this process is that change is a move to competency-based education in its totality.

Designing delivery systems with open-entry/exit components, based upon achievement of competencies and criterion-referenced measures, and devoid of the common course, credit, time restrictions will allow more flexibility within both the pre- and in-service levels of vocational teacher education. Utilizing newly developed or expanded technology such as audio–video tapes, computers, and word processors will assist in this change. These, coupled with a greater use of learning packages and correspondence courses, will help vocational teacher educators reach a larger audience and at the same time expend fewer resources.

CONCLUSION

Economic, social, and political trends will have a continued effect upon both the content and the process of vocational teacher education. Choosing a proactive mode of approaching these trends will help place vocational teacher education in a position of leadership. Identifying needed areas of change and moving in the direction of such change will help strengthen that position.

Change is sometimes both necessary and painful. As Machiavelli stated in *The Prince:* "There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things." (1, p. 88). Vocational teacher educators must accept the challenges, make the choices, and be in the forefront of the changes.

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TWO

Making It as a Professional

Nancy K. Christian

INTRODUCTION

Ed Davis died recently, after being involved in vocational education during his entire adult life. Ed epitomized the standard of the traditional vocational teacher. He consistently demonstrated his dedication to his students and his profession by "going the second mile." The hours spent working with his Industrial Cooperative Training (ICT) students mattered little. Their achievements, however small, were his reward.

Ed was never financially wealthy. His modest teaching salary fed and clothed his wife and son, but it was never sufficient to enable him to purchase a home or to establish a comfortable retirement income. His wealth came from intrinsic sources: the respect of his students and his peers, and his love of teaching.

* * * * *

This is Chuck Warner's last year in a vocational classroom. After 16 years as a teacher of marketing and distributive education, he is leaving education to begin a second career as an auctioneer.

When Chuck began teaching, he was fortunate to find a well-paying job in a metropolitan school system. He was a creative teacher who enjoyed working with young people and his students responded to his enthusiasm. A rather independent soul, Chuck began to question and then to resent the limitations imposed upon him by a bureaucratic school system. After several years of

"banging his head against a stone wall," he became frustrated and saw only limited opportunities for personal growth as a classroom teacher.

Chuck explored other avenues for personal development and enrolled in an auctioneering school. After serving a 14-month apprenticeship, he opened his own company and believes this will provide unlimited opportunity for his personal advancement.

* * * * * *

Sarah Taylor taught horticulture for one year in a senior high school in a rural southern country. Although she signed a contract to return for a second year, she resigned two weeks before school opened.

A graduate of a reputable, land-grant institution, Sarah thought that she would have unlimited opportunities as a well-trained, female "ag teacher." Six months of classroom experience with 90 students and assorted administrative snafus, convinced Sarah that her calling was elsewhere.

Now, unemployed, Sarah is on a tour of colleges to investigate graduate programs in business education.

* * * * * *

What do these three vocational teachers have in common? Each could be described as a professional in his or her own way. Ed rendered a lifetime of service in his chosen field. Chuck taught very capably for years, leaving only when professional avenues for personal growth dead-ended. Sarah, though well trained, had neither the personal qualities nor the maturity to cope with students and the school organization.

This article will examine some of the qualities associated with being a professional vocational teacher, review practical ways to increase the level of professionalism, and discuss attitudes and values expected to affect professionalism in the 80's.

WHAT IS A PROFESSIONAL?

The profession of education is thought of as a group of people engaged in imparting knowledge to others. Goode (4) identified two basic components of a profession which are still valid. The first component is that members must participate in prolonged, specialized training. Vocational teachers meet this requirement. Their training combines specialized knowledge with theory to prepare them to teach skills and to deal with everyday instructional situations. They acquire this body of knowledge in institutions of higher learning and through on-the-job training. However, this is only the foundation. Continued learning is absolutely necessary if the vocational teacher is to remain effective in the classroom or shop.

The second component identified by Goode is a service-oriented

attitude in which professional decisions are client-centered. Young people and adults are the clientele of vocational teachers. The desire of vocational teachers is to be of service to these individuals, an orientation that directs them into the classroom. Thus an interpersonal commitment is a necessity for the professional vocational teacher.

Professionally oriented teachers tend to have positive attitudes toward educational tasks. They are receptive to change and find most educational problems challenging (3). The professional vocational teacher accepts the mantle of constructive role model for students and strives to personify such attributes as honesty, responsibility, personal discipline, and leadership. (See "Your Professional Scoresheet.")

Maslow (7) described self-actualizing people as individuals who have some mission in life, some task to fulfill outside themselves. How well this description characterizes the professional vocational teacher who engages in school-related activities "above and beyond the call of duty"—for example, the business education teacher who voluntarily enrolls in a data processing class to prepare for the new course being added to the curriculum next year or the health occupations teacher who gives up an evening with friends to drive HOSA members to a district convention.

Professional vocational teachers are practicing technologists who are able to relate to people. They are action-oriented and behaviorally based. The auto mechanic, the machinist, the auto body, and other trade instructors who move through their daily activities giving their students the best possible experiences with sometimes limited resources are, in the finest sense of the word, professionals. This is not to imply that professional vocational teachers placidly accept what is doled out; on the contrary, they continually work for the improvement of equipment, instructional materials, and course content.

BECOMING MORE PROFESSIONAL

One criterion for measuring the degree of professionalism among vocational teachers is membership in professional organizations. Only one vocational teacher in four sees the need to join such organizations. For all professionals, including vocational education teachers, however, the need occurs to speak in a collective voice. A lone voice in the wind may easily be branded a heretic, but thousands of united voices have the ring of substance.

The professional organization can be a means for keeping up-to-date on events that impact on classroom instruction. For example, soci-

YOUR PROFESSIONAL SCORESHEET

Do you—	YES	NO
1. Belong to one or more professional organizations?	☐	☐
2. Actively participate in professional affairs in addition to your regular classroom duties?	☐	☐
3. Attend at least one in-service activity in your program area a year?	☐	☐
4. Read one or more professional journals each month?	☐	☐
5. Use one instructional technique exclusively in your classes?	☐	☐
6. Encourage the scheduling of only certain students in your classes?	☐	☐
7. Make an effort to provide personalized instruction for your students?	☐	☐
8. Listen receptively to innovative ideas concerning instruction in your field?	☐	☐
9. Find the task more important than the clock?	☐	☐
10. Immediately criticize any new administrative or instructional proposal?	☐	☐
11. Cooperate with administrators in acquiring necessary information?	☐	☐
12. Identify with your program area?	☐	☐
13. Identify with vocational education as a whole?	☐	☐
14. Identify with education as a profession?	☐	☐
15. Wait until the bell rings to plan classroom activities for the day?	☐	☐

An affirmative answer to all questions except 5, 6, 10, and 15 is a good indication of professionalism.

etal mores, federal and state legislation, technological advancement, and employment trends in business and industry eventually influence the course content of the vocational classroom or shop. Professional organizations can also provide a support system for teachers. Teachers with similar problems can reinforce each other, thus strengthening their positions as these changes occur.

Given the proper training, a people-oriented attitude, and an ability to organize instructional materials to best meet the needs of individual students, the future or practicing vocational teacher can become *more*

professional. To this end the following suggestions are offered for consideration.

1. Join your professional organizations. Think of joining as an investment in your future.
2. Volunteer for a committee assignment. Become actively involved and, as you gain experience, seek more responsible roles.
3. Develop personal, professional, and instructional goals at the beginning of each school year.
4. Evaluate your progress at the end of each school year. What goals or activities proved to be unimportant? What are the carryovers to next year?
5. Attend in-service and/or professional development meetings.
6. Plan your weekly work schedule to include those things you want or need to do. Budget time for yourself also.
7. Read your professional journals. Keep one in your car to read while you wait for someone.
8. Keep abreast of regional workshops, seminars, and conferences in your area of interest. Try to attend as many as possible.
9. Maintain a file of potential instructional resources. Learn to view everything that comes across your desk or anyone you meet as a potential resource.
10. Prepare a five-year career plan. Such a plan helps establish priorities and defines avenues for action.
11. Take definite steps to work toward an advanced degree.
12. Introduce yourself at in-service and professional meetings. Use new acquaintances to develop your own professional or instructional resource network.
13. Ask questions. Make it a point to learn something new every day that contributes to your body of knowledge as a vocational teacher.
14. Initiate a school gathering of vocational teachers to strengthen ties and discuss mutual concerns.
15. Write a letter to your legislator describing what is happening in your classroom or youth organization.
16. Include your family as much as possible in your professional/school activities. Take your spouse to dinner meetings. Make overnight trips family minivacations.

17. Try your hand at writing. Describe a successful teaching activity and send it to a professional journal to share with other teachers.

18. Be a people watcher. Learn from others' experiences—both good and bad. Adopt those characteristics that will help you reach your professional goals.

19. Study time management. Develop a system that makes effective use of your time.

20. Be objective about criticism. Learn from your own mistakes.

PROFESSIONALISM IN THE 80'S

In the 80's vocational teachers will increasingly pursue individualized lifestyles. Practical considerations for self and family will influence critical decisions concerning where to live and what to teach. Personal safety, intellectual stimulation, and educational climate will become important considerations (1).

Vocational teachers will continue to explore avocations outside the contractual day. They will spend more time perfecting their personal skills and hobbies than sponsoring afterschool activities. While relying on teaching salaries as their primary source of income, they may choose to enter into less secure part-time work for supplemental income. They will consider weekends recreation or family enrichment time (2).

Vocational teachers will be guided less by old-guard values and traditionally prescribed behaviors in the 80's than in the past. They, too, will have internalized the social pressures of the 60's and 70's, thus demanding job benefits found in business and industry. They will be more questioning of school board and administrative policies.

A basic indication of the individualized value system is the vocational teacher's attitude toward teaching. Among today's younger teachers, for example, personal motivation for professional development is relatively low. The prevalent feeling is that classroom responsibilities should not control the teacher's life (2). Teacher turnover will therefore increase as a general commitment to self-fulfillment takes precedence over loyalty to a particular school or school system.

Other values and attitudes will continue to affect vocational teachers and professionalism during the 80's. Among these will be increased independence of thought along with a desire to control decisions affecting teaching performance in the classroom (8). For example, administrative evaluation of a teacher who is more specialized than the administra-

tor often leads to resentment on the part of the teacher. The result has been increased militant action evidenced through collective bargaining and, sometimes, strikes. Professional vocational teachers will continue to demand a voice in the decisionmaking process, particularly in those areas affecting classroom instruction, contract specifications, and salary.

Fiscal conservatism, brought about by inflation and disenchantment with government (6), will reduce instructional resources, thus requiring the professional vocational teacher to do more with less money. The imagination and creativity generated by this situation will produce a much needed educational overhaul resulting in a more flexible educational system in the latter part of the century.

The greatest problem facing vocational teachers will be to reach a consensus on major issues. When such consensus is the result of frank and open discussion, it can benefit both teachers and students. Above all, vocational teachers will need to learn how to participate productively in the decisionmaking process (5).

This is the gauntlet thrown to professional vocational teachers, to those who set an example for colleagues, aspiring students, and lay groups. Professionalism is the key ingredient of vocational education, and in the 80's the professional vocational teacher will make the difference.

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THREE

Bridging the Gap Between General and Vocational Education

Melvin L. Barlow

INTRODUCTION

That two of the essential elements of a person's education—general and vocational—should suggest an apparent dichotomy is indeed a tragedy. Yet throughout most of this century, and part of the last, that notion has arisen from time to time, and the problem of relative values must be dealt with. It is hoped that the time will soon come when the topic can be quietly laid to rest and we can get on with the perennial business of the total education of the total population.

Briefly, some of the roots of the controversy may be found in the studies of the high school curriculum, college entrance requirements, introduction in the curriculum of the practical subjects, and similar discussions during the late nineteenth and early twentieth centuries. In 1893 the NEA Committee of Ten suggested nine high school courses which had value for college entrance—Latin, Greek, English, modern foreign language, mathematics, physical science, natural history, history, geography—and schools were urged to restrict their programs to these nine subjects. Almost concurrently, leaders of industry, labor, and interest groups of the progressive era called upon U.S. schools to modify their programs of instruction and include other subjects.

Thus the pressure of technology affected the basic values and goals of education, and it continued as a direct response to the needs of a growing industrialized society. Vocational education in one form or another appeared at nearly all educational levels—commerce, domestic science, agriculture, manual training, trade training. The popularity of these new forms of education prompted one traditionalist to protest the "brutal efficiency" of vocational education. In fact, the variety of practical school courses appeared to many as an opposition to classical studies.

THE GAP AND THE RISE OF VOCATIONAL EDUCATION

Although the leaders of the vocational education movement were themselves products of the classical education curriculum, well aware of the values of that curriculum, they were adamant about adding a new dimension to education. They condemned the sterile, bookish nature of education and argued for a broadened curriculum—largely of a scientific and technical nature—to meet the needs of the masses. Their planning occupied eleven years, from 1906 to 1917, and it is clear from the records of their meetings and conferences that these leaders did not recognize the existence of a conflict.

> Our first task, a task to which everything else is subordinate, is that of making American citizens; and therefore we must be sure that before we begin to specialize too closely in trade or industrial education, we shall have laid the firm foundation of the general training offered by the elementary school. (1)

For many persons interested in the vocational movement, the combination of the general and the vocational program seemed the occasion to accomplish many educational goals.

For example, one of the major educational problems of the early 1900's was the high eighth grade dropout rate. Vocational education hoped to reduce this by providing a more attractive high school program. Instruction in the skills, attitudes, and appreciations of a vocational area was to be a part of the student's total education; the Smith-Hughes Act of 1917 required that half of the student's educational day be devoted to general instruction.

When Senator Carroll S. Page of Vermont addressed the Senate on July 24, 1916, he referred to the opportunity for vocational education to promote character and good citizenship (2). And one of the early principles of the vocational education movement held that vocational education programs should be open to all; sex, creed, color, or nationality should not prevent anyone from enrolling (3).

Despite the objections of traditionalists, who were against "knacks" in education, vocational education established a foothold in the curriculum. Acceptance was not universal, but the favorable groundswell for the new program attracted large numbers of people from all walks of life and its existence could not be denied.

Among educators there appeared to be three major groups: (1) those who could not tolerate vocational education under any circumstances; (2) those who could tolerate the program and who caused it to be made available to students in school on a limited basis; and (3) those who could see vocational education as a great democratizing force in education and who conducted a wide range of vocational education programs. Thus the attitudes about vocational education as a part of the curriculum varied throughout the nation, and the literature contains many references to the different points of view. But what about a more rational point of view toward relationships of subject matter? Many attempts to describe the purposes of education have included references to the individual's need for vocational instruction—"Seven Cardinal Principles of Education," "The Ten Imperative Needs of Youth," and others. Now and then a writer provided a synthesis of ideas intended to close the gap. One of these writers was Theodore M. Greene.

LIBERAL EDUCATION AND VOCATIONAL TRAINING

Writing on the topic of liberal education and vocational training, Dr. Greene captured the essence of the mysterious gap by succinctly pointing out the functions and relationships of both areas of education. His 25-year-old commentary is applicable as an up-to-date point of view on these two areas of education; it indicates that there is in fact no real basis for the apparent existence of any gap.

> The first of these is the recognition that so-called "liberal education" and "vocational training" should be conceived of neither as hostile rivals nor as mutually exclusively enterprises but, on the contrary, as two essential and complementary aspects of the total preparation of the individual for his total life. The tendency of the proponents of liberal education to look down on vocational training with aristocratic contempt is as indefensible as is the tendency of money-minded and business-minded vocationalists to regard liberal education as a useless luxury. The total educational process, liberally conceived, is equally concerned with man's highest cultural development and his efficient and joyful performance of the specialized tasks for which he is best qualified, The basic liberal assumption is that, on the one hand, all of man's great insights and

speculations, all of his general and specialized knowledge, all his major and minor creations, all his spiritual ventures, experiences, and beliefs, are of intrinsic value and are infinitely precious to him; but that, no less surely, all his practical activities, however simple or complex, all his day-by-day decisions and actions are not only necessary but can and should be honorable, socially useful, and deeply satisfying. Liberalism asserts that man is a complex being with many needs and many proper activities, physical and mental, practical and spiritual, routine and creative, and that a well-rounded liberal education will help man to satisfy all these needs and indulge in all these activities more skilfully, wisely, and justly.

It is an everlasting pity that so sharp a dichotomy has established itself in our minds between liberal education and vocational training, with the false implication that the former is somehow higher, though useless, and the latter, useful but somehow crass and demeaning. If these two equally essential preparations for life are thus divorced, a *merely* liberal education will indeed tend to useless, and a *merely* vocational training crass. What is obviously needed is a truly liberal academic community in which the study of art and typewriting, of philosophy and accounting, of theology and medicine, of pure and applied science are, though admittedly very different, judged to be equally honorable and valuable in their several ways. In such a community the so-called liberal disciplines would indeed be liberal because they would be studied and taught with an eye to the total enrichment of the life of responsible members of a free society; and in such a community the acquisition of the vocational skills, from the simplest to the most complex, would be equally liberal because they would be taught, not in a spirit of predatory egoism, but in a spirit of deep social concern for the needs of others and for the common good. (4)

WHAT'S IN A NAME?

It is not uncommon to find school departments that divide their curriculum into two parts—academic and vocational. Thus the gap that should not exist is built into the structure of the educational program. Furthermore, such schools list under each heading a number of subjects, as if the name of the subject somehow indicated a relative value. The extent of qualities of *vocationalness* or *generalness* does not depend upon the name of the subject.

It is the *intent of the individual* that makes art, machine shop, music, welding, history, electronics, or any other subject either vocational or general. A school cannot tell in advance of student interest and intent whether Latin or dressmaking will be general or vocational.

Both Latin and dressmaking can have educational value and may contribute to achievement of the general goals of education, but these qualities are not "built in" as an inherent part of the subject. (5)

Traditionally, the practice of vocational educators has been to place students who have a common vocational objective in a group with all other students who have the same objective. Hence it is easy to call the class a vocational class. Nevertheless, it is not the name of the subject matter that makes the class vocational—it is the intent of the student.

Common definitions of vocation do not suggest any distinctions that would lead to categorizing the subject matter of the school into groups such as vocational or general. If one thinks of a vocation as what a person does to earn a living, and vocational education as the formal and informal learning that enables one to pursue the vocation, then vocational education relates to the preparation required for all kinds of work—from air conditioning to zoology.

It is quite possible that one of the major problems contributing to the generation of a gap is to be found in federal legislation for vocational education. Federal legislation in 1862 was directed toward vocational education of college level (A & M colleges), and in 1917 it was directed toward secondary schools and employed adults. The 1917 legislation was careful to indicate that the funds were for a program entirely different from the four-year college vocational education program. Subsequently the legislation was expanded to include vocational instruction in many kinds of postsecondary institutions. Although the basic concept of combining instruction of a vocational nature with other kinds of instruction has never changed, many students, particularly in postsecondary schools, have preferred to specialize in the vocational area in order to get a job. It is also surprising to find students who have already completed a baccalaureate degree in many postsecondary vocational education programs. Unfortunately, their degrees did not prepare them for the world of work.

At the root of the problem is the fact that education generally has not yet totally accepted its responsibility to prepare people to produce the goods and services that society needs and wants.

ACHIEVING GENERAL GOALS

Educational explorers have long been excited by spinoff values of vocational education programs. Throughout the nation are many examples of such programs that tend to make the general courses important

to students who otherwise would not be interested. For example, an allied health experimental program at UCLA, conducted in cooperation with four Los Angeles area high schools, brought students together at associated hospitals in actual work situations several times a week. The students were not mere observers; they participated, in predetermined tasks, in the work of the hospital—from surgeon to admittance clerk. In school the allied health students found new meaning in the academic subjects while they were exploring a range of occupational experiences.

> One youngster, who had spent most of his school day drawing pictures, suddenly became an eager scholar in biology. At the hospital, he had met the medical illustrator who draws and photographs sections of the body as an aid to surgery, and decided to become one.
>
> After the first semester, evaluators found that Allied Health students had pulled up their grades a full notch (from D to C; from C to B, etc.). They were also doing a full notch better than the "control" students. (6)

The allied health program and similar programs have clearly demonstrated that for many students combining general and vocational learning will provide the motivation needed to succeed in both areas. Certain general subjects taught in an abstract manner do not appeal to some students. Offering these subjects in cooperation with vocational objectives has been shown to produce excellent results.

TOWARD A SOLUTION

The foregoing evidence traces the development of the gap between general and vocational education and provides a rationale concerning why the gap should not exist, either in theory or in fact.

The existence of such a gap, wherever it occurs, represents a disservice to the youth and the adults of the nation. It accounts for the fact that many persons, well educated from one point of view, seek work that is not to be found because they have not been prepared to answer the employer's basic question: What can you do? On the other hand, among the vast group of unemployed are those who not only do not have a salable skill but who are deficient in the common skills of reading, writing, arithmetic, and the ability to speak English effectively. The problem affects education at the high school and post-high school levels, including the universities.

The principal step toward a solution rests with the educational institutions that should demonstrate concern for the future vocational

competency as well as the general competency of their students. Because such concern has not always been demonstrated, many students must *settle* for a job unsuited to their interests, aptitudes, and abilities, instead of *preparing* for the job that "fits." The process starts at an early age, it includes all jobs and is of lifelong duration.

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FOUR

Exploring the Role of National, State, and Local Leadership

Jean Thompson Hanson

INTRODUCTION.

Vocational education is offered to students at the local level but within the context of an intricate, changing social, educational, and political environment. Its administrators are faced with problems of educational administration as well as with those involving work force trends, technological changes, projected labor force demands, unemployment, related legislation, and other conditions that affect vocational education programs. Leadership at the local level determines the outcome of state and federal policy.

Educational policy and its administration are generally the result of forces that generate such policy at all levels—federal, state, and local. This is especially true of vocational education, perhaps because of the federal government's special interest in this area. The federal-state-local cooperative development of vocational programs can be described as based upon three principles:

1. The development of vocational education is in the national interest because it is essential to the health of the national economy, its defense, and its general welfare.

2. Federal funds are necessary to stimulate and support the states in making adequate provisions for vocational education.
3. The local schools and the states exercise control of the program through the normative patterns of representative government.

NATIONAL LEADERSHIP

Over a hundred years ago, Congress demonstrated its interest in promoting vocational education by passing the Morrill Act of 1862 which created land grant colleges. And in 1914 Congress adopted a resolution creating a Commission on National Aid to Vocational Education. Among the commission's findings was evidence that vocational education is a wise business investment for the nation. Then in 1917 passage of the Smith-Hughes Act provided a grant to each state for promoting agricultural, trade, industrial, and home economics education. The act required the establishment of a Federal Board for Vocational Education authorized to make studies, investigations, and reports.

Other legislation followed, but the Vocational Education Act of 1963 represented some new directions and purposes for vocational education including programs, research, and work-study. The act also included an evaluation process that required the appointment of an Advisory Council on Vocational Education to appraise the results of the act and recommend administrative and legislative improvements. A few years later, the 1968 Amendments to the Vocational Education Act of 1963 authorized a continuing National Advisory Council as well as state advisory councils.

Passage of the Education Amendments of 1972 created a Bureau of Occupational and Adult Education (BOAE) in the U.S. Office of Education (USOE) headed by a deputy commissioner. This bureau included a community college unit. The Education Amendments of 1976 (PL 94–482) tended to emphasize the functions of state administration and a reliance on state requirements for receiving federal funds. In 1979 the creation of the Department of Education with a cabinet-level secretary of education included an assistant secretary for vocational and adult education, first named in 1980.

Federal vocational education leadership evidences increasing linkage with the Department of Labor in administering work-force-training or Comprehensive Employment and Training Act (CETA) programs.

It seems likely that the reauthorized vocational education legisla-

tion expected in 1982 will mandate further changes and new directions. Thus federal, state, and local roles in the administration of vocational programs may shift again.

Many national-level education associations also have an impact on federal vocational education policy. These include the American Vocational Association and its affiliates, the American Association of Community and Junior Colleges, the National Education Association, the National Association of Secondary School Principals, the American Association of School Administrators, and the Council of Chief State School Officers. At the state and local level affiliated organizations of such associations have varying influence based upon their relative strength.

Other groups assert the need for vocational education to serve specific segments of the population, primarily those with special needs in urban areas. Among such groups are the Lawyers Committee for Civil Rights under Law, the Legal Defense Fund, the Council for Exceptional Children, and the National Advisory Council on Women's Educational Programs. During the passage of the 1976 amendments, many of these groups showed much interest in specific sections of the legislation (e.g., sex equity), and this interest is expected to be evident in the reauthorized legislation.

STATE LEADERSHIP

Based upon varying perceptions of control and the strength of state governance and local education agencies, the level of federal control over state and local administration of vocational education may be debated. However, the language in current federal legislation addresses the function of state administration.

> Any state desiring to participate in the programs authorized by this act shall, consistent with the state law, designate or establish a state board or agency which shall be the sole state agency responsible for the administration, or for the supervision of the administration of such programs. The responsibilities of the state board shall include:
>
> (A) the coordination of the development of policy with respect to such programs;
>
> (B) the coordination of the development, and the actual submission to the Commissioner, of the five-year state plan required by section 107 and of the annual program plan and accountability report required by section 108; and

(C) the consultation with the state advisory council on vocational education and other appropriate state agencies, councils, and individuals involved in the planning and reporting as required by sections 107 and 108. (2, sec. 104)

Studies of state vocational education administration have shown varying levels of leadership expressed as state vocational legislation and through the state departments of education (4). Some evidence suggests a general shift of power to greater state control.

Wenrich suggests that

> States have assumed a more dynamic role in policy making for reasons other than those provided in federal legislation. State and local funding has increased to a point where these units of government are not as dependent upon the federal government as they once were. Also, states and local communities have developed professional personnel who are qualified to give the kind of leadership necessary to exercise a significant role in policy making. (6)

As of April 1980, one could classify the state administrative structure for vocational education into six general categories with varying substructures and levels between the state board for vocational education and the state director of vocational education and including up to four intervening administrative levels between the state board and the state director.

To the practitioner attempting to comprehend state governance, all states are seen to have either a separate state board for vocational education or a state board of education acting as this body. The state director of vocational education is an executor of the power of this board. The board may deal with all vocational education or treat secondary vocational education and postsecondary vocational education in a different manner utilizing other boards or agencies. The mandated sole state agency (state board for vocational education) coordinates the state plan for vocational education to comply with federal legislation. It also consults with the state advisory council as required by the same legislation (2).

There seems to be variance in the organization of supervisory functions in state departments of education or departments of public instruction. Some states have subject matter consultants for vocational areas while others have smaller state staffs with less specific responsibilities. The role of state leadership involves coordination of a statewide program for vocational and technical education services related to state needs, and assistance in meeting these needs through development of necessary and innovative programs.

LOCAL LEADERSHIP

Local school districts, area schools, or regional units are viewed by some as extensions of state government since they are the creation of the state. Local control of education is effected, however, through local school districts.

Vocational administrative structure at the local level can be roughly categorized as follows:

1. Comprehensive high schools which operate secondary programs including vocational and nonvocational subjects
2. Vocational high schools which offer a full-time program of study in both nonvocational and vocational subjects and in which the majority of the students are enrolled in vocational education programs
3. Area vocational-technical centers which serve high school students on a shared-time basis as a part of their regular high school program and which usually cover a regional area
4. Intermediate school districts which are currently in place in over half of the states, such as the 55 Boards of Cooperative Educational Services (BOCES) in New York State
5. Area vocational-technical schools which are postsecondary nondegree-granting institutions with terminal educational programs
6. Technical institutes which are degree granting, whose sole purpose is postsecondary vocational-technical education, and which in some states may be similar to the area vocational-technical schools
7. Community colleges which offer both academic and vocational programs.

Even though the type of local governance structure may vary from state to state and within a state, however, the complexity of the tasks of local administration and leadership has greatly increased in the last few years. This complexity may be the result of an increase in federal- and state-legislated local requirements as well as an increase in interrelatedness of vocational programs with the Department of Labor, CETA, Youth Employment Training Program (YEPT), and a myriad of other agencies and programs.

A 1975 study of the expected functions of vocational directors in Minnesota Area Vocational Centers ranked the ten most important functions and competencies of directors as follows:

1. Coordinating vocational programs in the school district or center
2. Assisting in selection of vocational staff members
3. Keeping the community well informed of the vocational programs
4. Preparing or providing leadership in planning and preparation of short-range and long-range goals of programs
5. Explaining goals and scope of vocational education to school administrators and others to assure balanced comprehensive opportunities for all students
6. Promoting and demonstrating good public relations throughout the community and media
7. Providing assistance to school administrators in initiating and operating vocational programs
8. Recommending policies concerning the total vocational program and staff to superintendents and/or school board

9.5 Planning and preparing cost estimates in equipment and facilities for the annual vocational budget

9.5 Working cooperatively with persons and groups in developing a total education program. (3)

Fifty percent of these functions and competencies were community-related or referred to groups other than school administrators, thus indicating the need for directors to have an understanding of the administration of vocational and technical education within the structure of general education along with an increasing familiarity with other influences uniquely associated with vocational education. As a participant in this study, and based upon my recent experiences as a director in Minnesota, it now seems likely to me that the scope of functions might be broader than those delineated in the study.

Consistently cited as an area of significant concern for all aspects and levels of vocational administration is leadership. Also cited as an increasing need is the ability to see the larger educational picture. An important qualification of such leadership in vocational education is an understanding of the policymaking process at all levels.

LEADERSHIP DEVELOPMENT OF VOCATIONAL ADMINISTRATORS

During the years of rapid growth in vocational education, a growing number of administrative opportunities have opened up. As a result,

many areas of the country have shortages of licensed personnel at all levels of administration.

Many states have emphasized the importance of a background in vocational education and subject matter teaching for administrators. For example, three requirements for licensure in Minnesota as a secondary local vocational program director are as follows:

1. Major or equivalent in a vocational service area
2. Eligibility for vocational license in a vocational education service area
3. Three years of vocational educational teaching, supervision, or administration, with at least two years in vocational teaching licensed as a vocational instructor or postsecondary vocational-related instructor. (5)

A postsecondary area vocational technical institute director must have the following qualifications:

1. Major or equivalent in a vocational service area or vocational guidance
2. Five years teaching, supervision, or administration in vocational education, or in licensed vocational counseling or licensed-related instruction in a Minnesota Area Vocational Technical Institute. (5)

The small number of women in vocational education administrative positions indicates that vocational administration is a growth opportunity for women. Of the vocational administrative staff in Minnesota in 1977–78, for example, only 7 percent of the secondary administrators and 11 percent of the postsecondary administrators were female, and none of the state's 33 area vocational technical institute directors were female (1).

Training programs to enhance vocational leadership abilities have included Training and Development Programs for Vocational Education Personnel (PL 94–482), support for the National Center for Research in Vocational Education located at The Ohio State University, special programs offered by teacher training institutions, foundation grants, and other sources. These programs provide for upgrading of administrative skills and movement into vocational administration.

VOCATIONAL ADMINISTRATION AND CLASSROOM INSTRUCTION

As a classroom instructor I often envied the "easy" job of administrators and wondered how they spent their days. Now I look back at my

feelings of accomplishment in the classroom after successfully completing a school day or a school year because my work as an administrator never seems to be finished. Two such different views do little to implement an effective learning environment.

The responsibility for managing instruction rests with both administration and faculty, while basic to the instructional process are teachers and learners. Management of instruction involves supervision and evaluation of the instructional process, development of course sequences, coordination of scheduling, incorporation of appropriate technology, and use of community resources.

The role of vocational instructors in managing the learning environment has many facets, among them—

1. Working with students in a classroom, a cooperative work experience, or a laboratory setting
2. Working with other teachers and administrators in the school or the college
3. Working cooperatively with occupational leaders in the community to remain current in the instructor's teaching field.

Since vocational programs must relate closely to community needs, cooperation with advisory committees from the community is necessary. Joint decisionmaking based upon advice from advisory committees, instructors, administrators, and, in some instances, from state curriculum consultants, leads to quality vocational programs.

CONCLUSION

The delivery of vocational education services involves coordination of federal legislation with state governance and local implementation of vocational education programs. Professional leadership needs to be cognizant of the diversity of factors that influence vocational administration at all levels and in all types of institutions.

All vocational educators can contribute to strengthening the profession by utilizing opportunities for leadership. Federal and state legislation and the quality and direction of leadership at all levels ultimately affect the classroom teacher and the vocational student. Opportunities for every vocational educator to be a true leader in the profession are available by encouraging students to strive for excellence, by participating in setting policy, by providing input to the legislative process, and by exercising organizational leadership.

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FIVE

The Challenge Facing Vocational Education to Meet the Needs of Minority Populations

Nancy K. Christian, Carl Downing, Roy R. Escarcega, Edwina Gross, N. Alan Sheppard

INTRODUCTION — Edwina Gross

When all segments of society understand the true meaning of minority as it pertains to people, we will have learned at least one lesson. That is, minority means to be "fewer" than others in any setting. Consequently, working with a student from a "fewer" group need not be significantly different from working with a student from a "larger" group.

The impact of civil rights laws has heightened minority consciousness and sensitivity in light of identification. It is up to all of us—students, teachers, administrators, parents, the community at large, and elected leaders—to maintain and advance the rights of all minorities in all aspects of education and society. Now, in the 80's more than ever, much can be gained; or most can be lost.

In the past two decades, more than at any other time in our entire history, the need for self-improvement among minorities has increased. This is because large segments of our society feel that they have been pushed in the background long enough and are tired of being considered inferior to everyone except themselves. Nevertheless, because of lack of education, material goods, and self-discipline, many are apathetic.

Among nonminority people, however, many continue not to accept the special requirements of minority students. These people believe all they read, see, and hear in the media and from numerous so-called authorities, where repeatedly the inference is that minorities score lower on tests, have reading problems, are socially unaccepted, and lack the stamina to participate in certain areas. In reality, all that most minorities want is an opportunity to study, work, play, and progress in a nonracist, equal, unbiased society.

As an educator who is black, I firmly believe that there is no need to restructure the curriculum or to lower standards if all of us in the education profession will spend time "caring" about those students who are shy or withdrawn, or who have other behavioral or attitudinal difficulties. Caring is essential from the first day the child enrolls in school until the child graduates. And if it is necessary to teach the parent in order to reach the child, then we must start there.

Working with minorities is a rewarding experience when we are open, available, and truly care about them. Their needs, wants, likes, and dislikes are really more similar than different. They want to be a part of the system, not a symbol in the imagination of someone who believes they are inferior.

AMERICAN INDIAN PERSPECTIVE — Carl Downing

In order to enhance the potential for success of vocational education for American Indians in the 80's, many diverse yet interrelated factors must be considered. Among these factors are geographic locations, economic conditions, social and cultural uniqueness, diversity of needs, and different value systems among American Indians.

For the purpose of classifying needs three large divisions may be used: (1) American Indians who live on reservations, (2) American Indians who live in rural areas, (3) American Indians who live in urban areas. This classification cuts across many tribal and cultural lines, but it must be understood that there is great diversity within each group. The myth that one group represents American Indians must be abandoned. There are more than two hundred tribes, each with a unique relationship to the dominant society. A better understanding of American Indians in general giving more attention to the uniqueness of each tribe will enhance the chances of success of vocational education in the 80's. Vocational programs must address the needs expressed by each tribe, taking into account each geographic location served.

Many American Indians who live on reservations and who will

continue to live there will need to develop vocational skills that will enhance their capabilities to be productive in that setting. For example, the skills needed on the Navaho Reservation in Arizona are quite different from those needed on the Sioux Reservation in South Dakota. Therefore, vocational programs should provide for the geographic needs of each area served. Others who live on reservations will want to develop skills that will permit future mobility. In many instances such skills will be different from those needed to remain on the reservation. Diversity of programs is the key to adequate preparation in all geographic areas. The establishment of tribal advisory committees to work with vocational schools on or near reservations will help meet the specific needs of the Indians of the area.

Many American Indians live in rural areas where there are no reservations. Oklahoma, for example, the state with the largest Indian population, has no reservations. The vocational needs of these Indians are very similar to those of Indians who live on or near reservations because of the same type of geographic limitation: the dual desire to remain in the area or to become mobile enough to seek employment in other locations. Tribal employment offers limited opportunity. In many rural areas there is a somewhat greater chance for local employment than on a reservation. As tribes expand efforts to improve the economic condition both on reservations and in rural areas, more job opportunities will become available. However, tribal employment can never adequately fill the employment needs of all Indians.

Urban Indians have moved from both reservations and rural areas, many through government-sponsored relocation programs. Many continue to move back and forth from home to city with little or no true feeling of belonging. One of their real needs is to develop usable skills that will provide economic security—the same skills needed by other urban dwellers.

Although the backgrounds and needs of each subgroup may differ, many common factors will help increase the success potential of vocational education programs for American Indians. In addition to the development of marketable skills, a part of the vocational training for American Indians must include intercultural understanding. Just because American Indians move to the city and live in modern homes, for example, does not mean that they have given up the truly important aspects of their culture. In order to function every individual must be able to cope with society.

American Indians have the highest high school dropout rate in the nation. For some, a language barrier must be eliminated and basic academic areas must be remediated. During vocational schooling and later

during employment, American Indians will need substitutes for tribalism and the extended family concept. Good role models, counseling services, and advisory committees can help during the difficult time of adjustment. Also needed will be some provision for financial assistance and child care for single parent families. Finally, a well-run placement service will contribute to the positive reinforcement of skill development.

BLACK PERSPECTIVE — N. Alan Sheppard

Without a doubt, vocational education can offer some definite advantages and opportunities to Blacks and other excluded minorities. Among the factors for greater black participation in vocational education are the following:

1. Relevance to the "real" world.
2. The dynamic quality of a great number of programs in the local schools. (Unquestionably there has been a vocational educational explosion and there may be more outstanding programs in this segment of American education than in any other.)
3. The high employment rates of persons completing vocational education programs.
4. The unique contribution of vocational education to assist students in learning *self-confidence, communication skills, work attitudes,* and how to get along with employers and other employees. (2)

Black Americans and other minorities must not become blinded by the past record of racism in vocational-technical high schools and postsecondary institutions which denied minority students and adults the acquisitions of skills and training that would enable them to hold decent jobs at good pay. Nor can minority persons afford to become so obsessed by college that they fail to take advantage of vocational opportunities for skills and training that their communities need.

But what is the current status of Blacks in vocational education? Are Blacks participating in the kinds of vocational education programs that will lead to skill training in demand occupations?

The 1979 Office for Civil Rights (OCR) Survey reports black enrollment in vocational schools as follows:

18.4 percent in comprehensive high schools
11.3 percent in postsecondary institutions
10.3 percent in area vocational centers. (1)

The largest share of black enrollment is in consumer and homemaking and occupational home economics subjects, so that more black females than males are in vocational education. The third highest proportion of black enrollment is in office occupations, and the smallest percentage is in agriculture and technical areas.

Thus we see that Blacks are overrepresented in courses that equip them with no labor market skills or that train them for low-wage, low-demand, dead-end jobs. Blacks are underrepresented in the high-quality programs leading to more lucrative employment where there is definite labor market demand and upward job mobility. Similarly, Blacks tend to be underrepresented in the more advanced courses in an occupational area. For example, Steno/Secretarial is 12 percent black, Clerk/Typist is 18.5 percent black (1).

Without question, the labor force and employment condition of black females, especially teenagers, has been the most disadvantaged of any group for the past two decades. Ironically, this group would also seem to be the most inadequately served by the vocational education system. The 1979 OCR Survey (1) revealed that of all black females in comprehensive high schools enrolled in a vocational education course below the eleventh grade, 56 percent were taking home economics. The OCR data also showed that when black females are enrolled in occupational training, they tend to concentrate in programs leading to low-paying jobs such as child care, food service, clerk/typist, and nurse's aide.

It is evident, then, that the track record of Blacks in vocational education in the past decades is dismal.

The situation which confronts black men and women participating in *vocational education today must change.* Equitable solutions must be found to address the high rates of unemployment in the black community and the placement of untapped black talent in instructional and leadership positions at all levels of the vocational education system (3).

We must never forget that when America has a cold, black people have pneumonia, and when America is in a recession, black people are in a depression. Today, in the 1980's, the vocational education system must become more responsive to the following conditions vital to the well-being of black Americans.

As long as Blacks are overrepresented in the lowest-quality programs and courses that equip them with no labor market skills or that train them for low-wage, low-demand, and dead-end jobs—*vocational education must change.*

As long as quality vocational schools continue to find their way to

the white suburbs of America but not to the urban centers or core cities —*vocational education must change.*

As long as black participation in apprentice training programs remains significantly lower in comparison with the overall participation rate of Blacks in vocational education—*vocational education must change.*

As long as the number of Blacks who ought to occupy many more key leadership and instructional positions throughout the vocational education system remains woefully low—*vocational education must change.*

As long as federal vocational dollars are thinly spread to all, or nearly all, eligible secondary and postsecondary recipients so that poor school systems and those with high minority enrollments get little if any advantage over wealthier and predominantly white systems—*vocational education must change.*

Vocational education will change when its decisionmakers fully recognize and accept the fact that black people demand to participate in the full deliberative process of shaping the destiny of vocational education today and tomorrow.

HISPANIC PERSPECTIVE — Roy R. Escarcega

For the purpose of discussion, it is important to recognize that the term "Hispanic" as used here covers a broad range of Spanish-speaking individuals. Spaniards, Mexicans, Mexican-Americans, Central and South Americans, Cubans, and Puerto Ricans comprise the populations of individuals in this country and its possessions on which I wish to focus my comments. It should also be understood that within each of these Spanish-speaking groups are some very diverse subcultures and characteristics.

The Hispanic community needs a vocational educational curriculum designed to take into consideration two things: language and culture. This concept is not limited to the development of a bilingual curriculum. These considerations are not substitutes for—but should be additions to—the ongoing educational experience that contributes to an overall reinforcement of positive self-image for each student.

Additionally, the Hispanic community needs to participate with greater visibility in all phases of the vocational education process, starting with the national, state, and local planning councils; administrators; teachers; students. Therefore a conscious effort must be made to promote a greater understanding of the vocational education experience among the overall Hispanic community through involvement.

A high priority of vocational education must be to equip Hispanic

students with the skills necessary to participate in the labor market with a high degree of quality and equity. Concurrently, vocational education *must* make an overt effort to provide Hispanic females and males with information that gives them a more realistic understanding of nontraditional vocational experiences and opportunities.

To help improve vocational education for Hispanics in the 80's, I suggest—

1. The establishment of a "Hispanic Junior Achievement Model" operated in the traditional educational institutions. Accompanying this model would be basic educational skills training directly related to the model and its product. The management of the training curriculum would be the common basis for communicating information verbally, and in writing, regarding products of the model. Product and production analysis along with systems development would be the major focus of computational instruction.
2. The integration of any advisory committees presently existing, and the establishment of others where necessary, with Hispanic businesses and their leaders.
3. The encouragement of innovative projects planned in coordination with private industry councils as prime sponsors or job service mechanisms.
4. A continuing emphasis upon the need for a vocational education curriculum that is bilingual and bicultural.
5. The development of vocational education programs that are targeted to high Hispanic population pockets, both urban and rural.
6. The development of a vocational education experience that produces employment and employability for the Hispanic youth it involves.
7. Adequate and adaptable labor/job supply and demand data that include Hispanic population pockets.
8. An overt effort to include Hispanics in any vocational education activity planned for public economic development or revitalization programs within the U.S. economy (for example, Enterprise Zone Programs).

Finally, it is important to remember that these recommendations are designed to enrich the vocational education experience not only for Hispanics, but for all Americans.

CONCLUSION — Nancy K. Christian

As vocational teachers explore the challenge of meeting the needs of minority youth and adults, three commonalities emerge in the contributions of the writers of this article. They are (1) human relationships, (2) support services, and (3) job training.

Human Relationships

To work effectively with any student, the teacher must first have respect for the individual. The often-unstated personal acceptance of a student, whether Black, Asian-American, Hispanic, or American Indian, sets the tone for a nonthreatening classroom environment. In such an environment, the teacher-student relationship can lead to total involvement in the learning process, thus motivating the student to learn to maximum ability.

For teachers who find themselves working with even the smallest percentage of minority students, familiarization with the student's culture is suggested as professional preparation. One way of accomplishing such an objective is to visit the homes of prospective students, or to visit businesses operated by a member of the particular culture. A trip to the library for books on racial and ethnic topics can lead to followup conversations with students. Visits to places of worship or to community gatherings can also be helpful. Familiarity removes the "strangeness" of unknown cultures. An open mind assists the professional teacher in accepting and respecting the uniqueness of each individual.

Support Services

In recent years, thousands of Hispanic and Indo-Chinese refugees have immigrated to the United States. These individuals have needed temporary assistance in becoming economically independent in the American culture. An example of a transition program currently in operation at the Northern Virginia CETA Skill Center, Arlington, is the "Life Skills" program for high school students and adults. Indo-Chinese young people attend regular high school classes with high-intensive language training to obtain sufficient credits for graduation. After school hours, the "Life Skills" program offered through CETA Title IV-A funds provides youth and adults instruction in career education, introduction to the U.S. work situation, interpersonal relationships, and commercial/consumer skills. Such a support service provides assistance which enables the refugees to eventually enroll and succeed in vocational job training classes should they so desire. Additional short-term support services that can be provided by other agencies, in cooperation

with vocational educators, are counseling services, language instruction, financial aid, and child care facilities.

Job Training

As the established link between education and the workplace, vocational education not only provides job training for youth and adults, but it has the responsibility of contributing to the nation's economy by training workers for business and industry. This challenge is compounded when the needs of minorities are addressed. Minorities stand ready to make a worthwhile contribution to the nation's economy.

To address the needs of minorities in the workplace, special activities should be initiated. At the local level, attention may be given to a stepped-up public relations campaign specifically inviting minorities to participate in existing vocational training programs. Appointing minority leaders to local advisory committees is essential. In depressed urban areas vocational education leaders should solicit the cooperation of other public agencies in promoting revitalization projects, and the necessary job training should be offered within the established vocational education delivery system.

The challenge facing vocational education in meeting the needs of minority populations is great. This article has attempted to specify some of the approaches teachers may use in meeting this challenge.

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SIX

Students with Special Needs

L. Allen Phelps

The jobs of vocational educators at all levels are becoming increasingly complex. Vocational teachers are confronted with numerous challenges: keeping up-to-date with a rapidly changing technology, remaining abreast of new teaching techniques and materials, providing meaningful instruction with limited budgets for supplies and materials, and assuring employers that graduates have skills and knowledges necessary for employment. These essential activities continue to consume a large part of the teacher's day.

Within the past decade, however, the challenges have become even more complex with the mainstreaming of special needs students. In most states, students with special educational problems and needs are being placed in regular vocational classes. In dealing with disadvantaged, handicapped, and limited-English-proficiency students, teachers and administrators are faced with numerous questions such as the following: How should I modify my curriculum and instruction to accommodate this student? What information is available that describes his/her learning problem(s)? Where do I go for assistance? What about the safety in the lab? What has been included in the student's individualized educational program (IEP)? To what degree do I devote special attention to this student and ignore the others? These are real and

practical concerns that regular class teachers without special training are raising as the mainstreaming movement goes into high gear in the 1980's. Dealing effectively with special needs students is certainly one of the biggest challenges, if not the biggest challenge, of this decade.

WHO ARE STUDENTS WITH SPECIAL NEEDS?

Essentially, students with special needs are those who require some form of specialized attention in order to succeed in vocational education. The phrase "special needs student" originated in the 1968 Amendments to the Vocational Education Act. Under the current Vocational Education Amendments of 1976 (PL 94–482, Title II), there are three nationally recognized special needs populations: the handicapped, the disadvantaged, and the limited-English-speaking. In addition, PL 94–482 contains provisions for vocational education for native Americans, who can also be considered a special needs population.

Handicapped students are defined as those

> . . . persons who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, health impaired, or persons with specific learning disabilities who by reason thereof require special education and related services, and who because of their handicapping condition cannot succeed in the regular vocational educational program without special education assistance or who require a modified vocational education program. (4, Section 197.7)

Disadvantaged students are defined as those

> . . . persons (other than handicapped persons) who have academic or economic disadvantages; and who require special services, assistance, or programs in order to enable them to succeed in vocational education programs. (4, Section 197.16)

The third group that has become increasingly prominent in vocational education is comprised of students with limited English-speaking ability:

> . . . any member of a national origin minority who does not speak and understand the English language in an instructional setting well enough to benefit from educational programs. LESA persons have English as their second language. (1)

The common element or identifier in all these federal definitions is the indication that additional, special services or assistance are needed in order for these persons to be successful in vocational programs. As such, "students with special needs" have some individual, unique learn-

ing requirements that usually cannot be met with the typical classroom teaching or materials. As the definitions suggest, these special educational needs may result from physical, social, learning, emotional, or cultural difficulties. Special needs students require us, as vocational educators, to—

1. Work closely with special educators and other specialists (e.g., ESL teachers) to identify the unique needs and problems of the individual student.
2. Modify our instructional programs, curriculum, and instructional materials to meet the needs of the individual student.
3. Assist in providing additional services in order to meet the identified needs.

It is vitally important to recognize special needs students first as individuals. It is better to define them as individuals with unique and different learning styles, rather than as persons with medical and psychological labels. A description of their special needs is more accurate and helpful in planning instruction than are the traditional labels that usually accompany these students.

WHY THE EMPHASIS ON SPECIAL NEEDS STUDENTS?

First, it is important to recognize that, for several decades, vocational education has served a broad range of students, including those at the secondary and postsecondary levels who had "difficulty with academics" and those who saw themselves pursuing jobs immediately upon graduation from high school. These students, as well as others from the college preparatory and general curricula, have been successfully enrolled in vocational education.

During the 1970's, the human and civil rights movement of the 1960's expanded to include women, the handicapped, the aged, and a number of other special groups. Vocational education became a prime target for these special interest groups because it represents a direct linkage of education and employment. If the nation is to equalize opportunities for employment among these various groups, one of the major components of such an effort is the equalization of educational opportunities. For these and other groups, vocational education with its focus on providing meaningful and relevant training for available employment opportunities is therefore essential.

Various court decisions and federal legislative enactments have attempted to make equal educational and employment opportunities a

reality. Among the more prominent legislative mandates are the following:

1. P.L. 94–142, the Education for All Handicapped Children's Act of 1975, which requires that all handicapped children ages 3 to 21 be provided a free and appropriate education. This law assures that all handicapped children will have access to the programs provided nonhandicapped children, including vocational education, industrial arts, and consumer and homemaking education. It also provides that handicapped students will be educated in the least restrictive environment and that they will have an individualized education program plan.
2. Title VI of the Civil Rights Act of 1964 assures that persons will not be discriminated against in educational programs on the basis of race or national origin. Section 504 of the Rehabilitation Act is a similar provision that assures that discrimination will not occur on the basis of a handicap in all federally supported programs including preschool, elementary, secondary, and higher education.
3. Section 503 of the Rehabilitation Act requires that all federal contractors with contracts exceeding $2,500 maintain affirmative action programs to recruit and hire "qualified" handicapped persons. The President's Committee on Employment of the Handicapped estimates that the Section 503 provisions cover about one-half of all private businesses and industry in the United States.

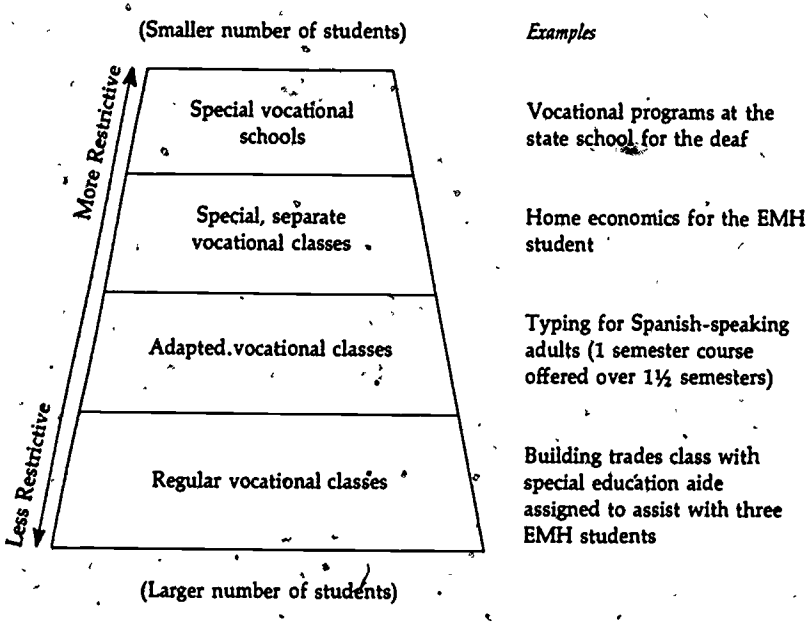
SPECIAL VS. REGULAR CLASSES

One of the most frequently used programming strategies for special needs students has been to establish special vocational classes or special vocational programs. Whether or not these students will require special classes depends upon a number of factors, including the nature and severity of the learning or language problem, the size of the regular class, the available resource assistance (e.g., special education resource teacher, paraprofessional, or interpreter), the availability of special materials, the released time for planning, and the amount of training the vocational teacher has in dealing with special needs students. The overriding factor, however, is the potential for the student to function effectively in whatever is the least restrictive, but most responsive, setting. Vocational educators should play an active role in assisting in the in-

school placement of special needs students. Before a decision is made by the special education director, the special education teacher, the school psychologist, and parents to place a student in a specific vocational class, such as general office practice, the vocational teacher should be involved. To meet the needs of all special students, vocational educators should be able to provide a series of special class settings similar to those shown in Figure 1.

FIGURE 1

ALTERNATIVE VOCATIONAL EDUCATION SETTINGS FOR SPECIAL NEEDS STUDENTS



ASSESSMENT AND TEACHING TECHNIQUES

As has been noted, special needs students have quite diverse learning styles. It is quite possible (but not highly likely) to have several students in the same vocational class who may have reading difficulties, cultural differences, and physical limitations. In these instances, teachers need to use a variety of techniques. Figure 2 describes teaching and assessment techniques that have proven to be effective in working with special needs students (6, pp. 302, 326–28).

FIGURE 2

Teaching and Assessment Strategies

For Students with Learning Problems

- Be sure the language is at an appropriate reading level.
- Keep words and sentences as simple and as short as possible.
- Include as many visuals (drawings, pictures, illustrations) as possible.
- Provide verbal reinforcement for the material in the form of individualized attention.
- Be sure the examples used are concrete and meaningful for the learner.
- Make extensive use of audiovisual aids.
- Prepare audio cassette recordings of important printed materials.
- Modify materials (such as workbooks) so that students can respond by drawing illustrations or recording on cassette tapes.
- Use vocabulary and language that are extremely simple and concise.
- Make the sentences or test items as short as possible.
- Verify that the test information to be read is at or below the learner's reading level in terms of difficulty.
- Use nonverbal response scales whenever possible.
- Permit oral presentation of questions to provide simplification and clarification. This can be done on either an individual or small group basis.
- Permit testing to take place in short sessions over several days.
- Provide simple directions and several examples for responding.
- Repeat directions or other essential information until overlearning occurs.
- Use some modes for responding other than writing whenever possible.

For Students with Physical Impairments

- For students who are frequently homebound, self-instructional materials must be available.
- Students who have difficulty with writing should be permitted to tape record or type their responses.
- For individual students with specific physical impairments (limited use of hands, for instance), be sure that the impairment does not limit access to or the use of tape recorders, large reference books, and so forth. Adjustments and modifications have to be made on an individual basis.
- Provide large response boxes for individuals who exhibit poor fine motor coordination.
- Make sure that necessary modifications are made in tools, equipment, materials, worktables, or desks when performance testing is used.

- When performance testing is to be used, arrange materials and tools so that the student's limited mobility doesn't limit his or her performance.

For Students with Visual Impairments

- Printed instructional materials may have to be converted into braille, enlarged print, or thermoformed print.
- Electronic scanning equipment can also be used; it transforms letters and words from printed material into raised images that can be felt.
- Pertinent material can be transcribed onto records or cassette tapes.
- Volunteer or paid reader services can be arranged for individual students.
- Special or supplementary lighting may be needed for partially sighted students.
- Utilize volunteer service agencies to tape-record printed materials such as textbooks or reference books.
- Design test situations using tactile discrimination.
- Arrange for students to respond in braille or by using a cassette tape recorder.

For Students with Hearing Impairments

- Since hearing-impaired students (especially the deaf) also frequently have learning problems, many of the suggestions offered under the learning problems section above will apply.
- Captioned films, charts, overhead transparencies, and other visual materials should be used extensively.
- Written and simplified transcripts of cassette or audio-taped materials can be prepared.
- Arrange for an in-class tutor (deaf interpreter) to work with deaf students and others having problems.
- Use a total communication approach that includes lipreading, signing, and finger spelling.
- Provide favorable seating for partially hearing students.
- Employ necessary sound amplification devices.
- Use special devices to improve acoustics.
- Have the evaluation instrument reviewed for interpretation by manual communication.

For Students with Behavioral Problems

- Prior to testing or assessment take steps to insure that the test situation is nonthreatening to the extent possible.
- Watch the learner closely during the testing to spot potentially disruptive situations.

For the non-English-Speaking

- Have tests or other instruments translated to the native language.
- Use a bilinguist to administer the instrument.
- Consider very carefully the cultural fairness of your tests or other instruments. To what extent do the evaluation procedures or instruments point out differences among cultural groups that are based on language, reading speed, or culturally loaded content?

JUAN: A CASE STUDY

A case study is perhaps the most effective way to describe a series of important considerations for teachers to keep in mind when working with special needs students. The following case study illustrates several key factors such as individualized attention, and cooperative teaching between vocational and special educators.

Juan is the youngest of seven children in a family of migrant farmworkers from Mexico. The family, which lives in the south in the winter and moves northward during the growing seasons, speaks only Spanish in the home. Fourteen-year-old Juan was far behind in reading skills and expressed a definite dislike of school. After retention in the fourth grade for two years at his home school, he was referred for special services.

Now in the seventh grade in the middle school, Juan receives individualized reading instruction for two hours a day in the learning resource center with Lee Thompson, the resource teacher. For the remainder of the school day he attends regular classes, one of which is an industrial arts construction class.

During September, the resource teacher approached the industrial arts teacher, Sharon Spence, regarding Juan's reading difficulties. Lee asked to review the lab manual and text used in the construction class because Juan expressed a great deal of interest in the surveying unit that the construction class was completing. After some discussion the two teachers identified a number of basic printed and visual materials that Lee could use both to expand the unit on surveying and to help remediate some of Juan's reading difficulties. With the reading instruction focused on surveying, Juan developed a high degree of interest in reading. He started with mapreading and soon moved on to reading procedure manuals on surveying. The interest in surveying also enhanced his measurement and math skills.

When the surveying unit was completed, the cooperative working relationship between the two teachers extended to other units. Three

other special education students in the construction class also received special assistance once Lee and Sharon became comfortable working together. As the school year progressed, Lee frequently provided in-class tutorial assistance for Juan and several other students, and accompanied the construction class on two field trips. Lee also helped Sharon develop a peer tutoring system where advanced students in the construction classes can gain extra credit for helping some of the slower-learning students.

Recently Sharon and Lee attended an in-service workshop as a team, and did a complete readability analysis of all the instructional materials and tests that Sharon uses. As a result of this analysis, they are having the Instructional Materials Center put several of the reading assignments on cassette tapes. The IMC staff is also conducting a search for new audiovisual and low-reading-level instructional materials related to the construction field. And Lee will administer some of the tests orally for Juan and some of the other special needs students in Sharon's class.

In May the two teachers met jointly with their department chairpersons for industrial arts and special education. They described their accomplishments since September and their plans for next year. Sharon has agreed to teach a special class, Introduction to Construction Processes, for 10 to 12 students who are somewhat more severely handicapped than Juan. In addition, she will have a full-time special education-trained paraprofessional to assist with the three to five special needs students who will be in each of her construction classes next year.

CONCLUSION

The foregoing case study presents one set of circumstances surrounding a single special needs student and his teachers. Certainly there are many other types of special needs students who require different types of programs and assistance. I chose this case from several similar positive experiences that I have encountered over the past eight years because it represents the importance of collaborative relationships between the educators who are essential in serving special needs students. Neither vocational educators nor special educators can be consistently successful in serving these students effectively with independent efforts. Clearly, the challenge for vocational educators for the 80's is to participate fully in designing and implementing these collaborative efforts that will directly enhance the educational and employment opportunities for individuals with special needs.

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SEVEN

Meeting the Challenge of Unemployed Youth

George R. Quarles and Vera L. Hannenberg

Increasingly, attention is drawn to the difficulties which youth encounter in making the transition from school to work. A widening gap between the skills attainments of youth and the demands of the labor market for high-level technical and academic competencies tends to add to the frustration of unemployed youth (1).

This discussion will seek to set forth and consider the problems of transition; it will focus on the problems from the perspective of student adequacies, from the perspective of the schools and the training institutions, and also within the context of economic or cyclical phenomena which affect the job market.

CHANGES IN INDUSTRIAL PATTERNS

Historically, farm work and manufacturing industries have provided entry into the labor market for youth with minimal skills and limited educational attainment. With the increased mechanization and consolidation of farms and the disappearance of hundreds of thousands of low-level manufacturing jobs (more than 600,000 in New York City during the 1970's), a major source of entry-level opportu-

nity for youth has disappeared. The result is that youthful unskilled labor market entrants, traditionally the most vulnerable to expanding and contracting labor markets, have fewer opportunities for entering the labor market. Increasing demands for sophisticated skills, coupled with the decline in the numbers of unskilled jobs, contribute to the pernicious and high level of youth unemployment, particularly in urban areas (1).

Several other explanations for high-level youth unemployment are frequently offered. One points to the lack of orientation to work and the limited basic competencies of many young people. Another hypothesis often discussed is that inner-city youth prefer idleness or illegitimate jobs to entry-level dirty work. A further explanation proposed by some is that youth unemployment is the result of a serious error in public policy—the raising of the minimum wage (1).

While each of the proposed explanations may have some credibility, each represents an incomplete answer. Let us consider the facts.

One-half of the unemployed persons seeking work in this country are youths, age 16 to 24. While youth unemployment is widespread, among all populations there are particular groups of youth with especially high unemployment rates. The differences are particularly significant as they affect poverty and nonpoverty families as Table 1 illustrates.

The unemployment rate is considerably higher among minority youths, particularly in the central cities. In 1977 the unemployment rate

TABLE 1

YOUTH UNEMPLOYMENT AMONG POVERTY AND NONPOVERTY FAMILIES

	Unemployment Rates (%)			*Number Unemployed (Thousands)*		
	Total	*White*	*Non-White*	*Total*	*White*	*Non-White*
Total	19.0	16.9	37.1	1,701	1,357	344
Central City	23.4	18.8	40.8	535	338	197
Poverty	35.2	24.0	43.5	142	41	101
Non-poverty	20.9	18.2	38.2	393	297	96
Suburbs	17.9	17.7	33.0	687	617	70
Poverty	28.0	21.4	42.3	46	24	22
Non-poverty	17.4	16.9	30.0	641	593	48
Non-metropolitan	16.9	15.4	32.6	479	402	77
Poverty	18.6	15.7	33.8	174	122	52
Non-poverty	16.0	15.3	30.5	305	280	25

Source: Unpublished tabulation from *Current Population Survey* (1976 figures), U.S. Department of Labor, Bureau of Labor Statistics, July 1979.

for black teenagers averaged above 40 per cent. This rate may in fact be substantially higher since black youths have a much lower labor force participation rate than white youths.

Let us look at the implications of the statistics about the employment problems of young blacks. Teenage black males have unemployment rates of from 30 to 40 percent, more than double the rates for whites. Young black men and women (age 20 to 24) have unemployment rates of about 20 percent, from one-half to three times the rates for their white counterparts (6). Clearly these statistics indicate that a disproportionately large number of young Blacks are having serious and prolonged difficulties gaining a foothold in the world of work. Even more distressing is the fact that many of those who encounter serious difficulties in their formative years (16 to 24) fail to acquire the experience, the training, the competencies, and the credentials that would earn them a regular job yielding reasonable income in their adult years (2).

Other major causes of high youth unemployment are the following:

- Unemployment rates for youth tend to be more sensitive to the business cycle; young people tend to be laid off first during a recession because they lack experience and seniority.
- The growth of the teenage population in the 1950's expanded the share of teenagers in the total population, and this increase is one of the reasons why youth unemployment rates today are higher than in the 1950's. The proportion of young people in the population is now near a peak and has begun a decline. It is anticipated, however, that this decline will not significantly affect the high rate of youth unemployment. The decline is also not likely to reduce youth unemployment because the minority population will continue to increase as a share of the youth population (6).
- A substantial proportion of youths are disadvantaged, facing barriers in finding employment. These barriers include inadequate training and marginal basic skills. Moreover, many are lacking the attitudinal and job-seeking skills necessary to gain and maintain jobs. For the most part, the jobs available to teenagers are at the bottom of the job scale. Predictably, many of these jobs have few incentives for both the employer and the employee to develop long-term relationships. Dead-end jobs tend to produce high turnover and high unemployment even when overall unemployment is low. Fundamentally, the problem of youth unemployment is the same as that of the adult population—*not*

enough jobs to go around. The rate of youth unemployment mirrors and magnifies the larger problem of the economy. However, unemployment hits young people from poverty-level and working-class families hardest.

- Our society has many built-in inequalities for those of different race, class, background, skill, and age. Youth unemployment can be discussed as a symptom of a society which systematically denies many of its members equal economic opportunity, as the perpetuation of age discrimination, as our society's way of tolerating otherwise intolerable levels of unemployment by allowing the burden to fall hardest on the doubly disadvantaged young minorities (8).

The Inequality of Joblessness

Table 2 illustrates the *unequal burden of unemployment* in the United States.

TABLE 2

UNEMPLOYMENT IN THE UNITED STATES

Black teenagers, 16–19, in urban poverty areas	43.0%
Black teenagers, 16–19	39.5%
Spanish-origin teenagers	20.7%
Teenagers, 16–19	17.7%
White teenagers, 16–19	15.0%
All Blacks, 16 and over	13.6%
All Spanish-origin, 16 and over	9.5%
All persons, 16 and over, in poverty areas	9.4%
All females, 20 and over	7.0%
Veterans, 20–34	6.7%
All persons, 16 and over, in nonpoverty areas	6.4%
All Whites, 16 and over	6.1%

Source: U.S. Bureau of Labor Statistics—*Employment and Earnings (January 1977); Special Labor Force Report 200—1977* and unpublished data (1976 figures).

PROJECTED OCCUPATIONAL CHARACTERISTICS FOR THE 80'S

During the 80's occupational choices will be made in an environment in which the labor force is expected to grow slowly. Between 1968 and 1972, for example, the labor force increased by nearly 2 percent a

year; however, labor force growth is expected to decrease to a 1.2 percent annual rate between 1980 and 1985 because of earlier declining birth rates. The consequences of a slower growth in the number of persons available to produce goods and services show up in the anticipated slowing down of the gross national product (GNP) growth rate, from an estimated average annual rate of 4.6 percent in the 70's to 3.2 percent in the first half of the 80's.

The 80's will be characterized by continuing technological growth and productivity increases. These developments will frequently eliminate specific jobs or reduce the numbers employed in them, or change their skills requirements. In other instances they will encourage the development of new occupations. The emergence of computer technologies in the past two decades and the changes in the printing industry are examples of these changes. The expansion of high technology is likely to have the effect of upgrading many occupations and making higher skill demands in formerly routine jobs, or creating new skilled positions. The new technologies will create expanded opportunities and responsibilities for vocational education programs at all levels (4).

The willingness and capabilities of the schools to meet the challenge of the changing demands of our economy will be tested during this decade (3). Vocational schools throughout the nation have a long history of demonstrated sensitivity and responsiveness to changing needs. Unique in size and diversity, New York City's schools, for example, have provided opportunity for free education and training to scores of immigrants seeking literacy and occupational training.

Industrial high schools offering training for employment were established in New York City in the early 1920's. These schools were the precursors of the present-day vocational high schools, and like the present vocational high schools, they prepared students for college and technical jobs. During the 1920's the City also established continuation schools for youth under 18, who for a variety of reasons (mainly economic hardship) left school before graduation. These schools also provided free education and training of humanpower resources for the defense and war industry of the 1940's.

Again in the 1960's, with the passage of the Manpower Development Training Act, New York City established skills training centers to serve unemployed and underemployed persons, providing them with occupational training and academic skills upgrading to ensure successful entry into the labor market. New demands, testing the flexibility and adaptability of the schools, will be made in the 1980's.

The changes in the external environment that will affect vocational

education will have differing impact on each of the specific population groups.

Secondary School Populations

Although the number of young people in the secondary school age cohort is expected to drop considerably in the next ten years, educational deficits will continue to limit the competitive edge of this population in the labor market. Renewed emphasis on the upgrading of basic tool skills will be required on the secondary level to enable vocational students to meet the demands of an increasingly complex technological environment. An impressive body of evidence indicates that vocational education programs correlated with instruction in reading and mathematics increase motivation and produce higher achievement in both academic and vocational skills. Closer integration of vocational and academic disciplines in the secondary schools is both economically and educationally sound. Efforts to expand such comprehensive programs need to become universal, not only for the benefit of marginal and disaffected students, but for the general secondary population. While the occupational skills taught in the secondary schools should be constantly tested for relevancy to the requirements of the labor market, it is especially important that these skills be transferable and adaptable to the constantly changing needs of industry. Strengthened basic skills will help ensure this adaptability.

Employability Skills. Recent studies conducted among leading employers of youth indicate the need for greater emphasis on the behavioral requirements for success on the job. While many students leave vocational training programs equipped with adequate job skills, many lack the fundamental personal characteristics to succeed. These characteristics include attitudes toward the employer and authority figures, toward peers, toward attendance and punctuality; and a general sense of personal involvement and responsibility for a job well done. Many young people demonstrate a lack of sensitivity to the demands of the labor market, a lack of awareness of self, and an inability to cope with the process of competing for available jobs. Intensive efforts are already underway in New York City to augment traditional vocational training programs with instruction in these basic behavioral skills. Curriculum and special services, including programs like the Personal Growth Laboratory and the Adkins Life Skills, are being implemented.

A recently developed curriculum series for secondary students, "Getting Your Foot in the Door," is being piloted for English-speaking students and in an adaptation for Hispanic students. This curriculum

was developed based on extensive interviews with New York City employers to determine the causes and nature of student employability deficits. Outcomes of the impact of the curriculum on student performance will be measured and reported. Overall it appears that expanded career education programs for all students would help ameliorate the negative behavioral modes which prevent student success in employment.

Work Experience—Easing the Transition from School to Work. Consistently, it has been shown that the most effective aid in easing the transition of students from school to work is the supervised work experience. The evidence gained from more than sixty years of experience in cooperative education demonstrates the high rate of employment and retention on the job enjoyed by students after graduation. Students in the New York City high schools employed in the private sector in the cooperative education program have also displayed higher school retention rates and improved academic performance.

The value of the voluntary work experience as a transitional step has also been dramatically demonstrated in the executive internship program, originally piloted in New York City and now a nationwide model. In addition, City as School, an alternative high school in New York City patterned after the Philadelphia Parkway model, promotes volunteerism in its many cooperating municipal agencies. For marginal and disaffected students, however, there has been a nationwide shortage of work experience opportunities, affecting those who are still in school, and even more severely affecting those who have already left school without a diploma.

For the latter group, New York City has established five retrieval centers, which now serve approximately 1,000 high school dropouts. Emphasis in these centers will be placed on providing assessment, career guidance, and referral to training and educational services to assist the dropouts in acquiring the necessary skills and academic credentials to find and keep a job.

With the passage of the Youth Employment Demonstration Projects Act, 1977 (CETA), the opportunity to involve larger numbers of marginal and disaffected students in a positive work experience has been made possible.

Evaluation of the two-year experience with the In-School Youth Employment and Training Program in New York City confirms the positive effect and benefits of a structured work experience. Not surprisingly, evaluations indicate also that this work experience has served to improve retention of students, to upgrade their attitudes and performance on the job, and to motivate them to seek advanced training

in postsecondary institutions to enhance their skills. The Youth Employment Training Program (YETP) has also strengthened the bond between the business community and the schools, a bond which is necessary to ensure the effectiveness of vocational training and the transition to employment. Work experience programs provide an incomparable culminating activity to classroom training. Like the internships demanded for fulfillment in the professions, a live work application of classroom learnings tests and strengthens the competencies acquired in school laboratories. The schools and the business community would profit from an institutionalized twelfth grade internship (work-experience) for all vocations. With expanded support from youth employment legislation, this culminating work-experience could be built into the school experience, thereby easing the transition from school to work.

Transitional work-experiences, developed in collaboration with the business community, encourage the much-needed partnership between the business community and the schools (9). This partnership has obvious benefits for students preparing to enter the labor market, and equally for staff in the schools. The partnership can serve to provide reentry and upgrading of staff skills to keep pace with changing industrial patterns.

A valuable link between the schools and business in New York City has been provided by agencies such as Open Doors, created through the efforts of the Economic Development Council and the Association of Business, Labor, and Education (ABLE). Representatives of major New York City industries offer information and guidance to students and staff, bringing live contact with the business world into the classroom. These partnerships are crucial to the success of vocational training programs, and deserve expansion.

Out-Of-School Youth and Adults

Population studies indicate that the number of adults between the ages of 35 and 54 will increase substantially in the 1980's. Persons over 35, besides being the fastest growing population group, are likely to experience a rise in the rate of career/occupation changes. In effect, therefore, this group will account for a more significant portion of vocational education students.

Women in the Labor Force

Prime candidates for vocational training in this group will be found among the large number of women between the ages of 25 and 54 who

are entering or reentering the labor force. In addition to their greater numbers in the total population, the participation of women in the labor force, full-time and part-time, should increase as well. Efforts to serve women and to encourage nonstereotypical career choices should be pursued among reentrants into the labor market, as well as among young women making initial choices (7).

Minorities

The proportion of minorities in the school population is rising sharply. It is anticipated that minority enrollments in all kinds of vocational programs—from basic skills for disadvantaged students through sophisticated programs at the two-year college level—will increase at a much faster rate than white enrollments (7).

CHALLENGES FOR THE SCHOOLS IN THE 1980'S

In maintaining its long and honored tradition of adapting to changing needs, the schools and vocational training institutions will have to face a number of challenges. The demands will include the following:

- Maintaining sensitivity to changes in the local and national economy. Changes in the nature of job opportunities must be monitored and appropriate adjustments made in the instructional system to achieve compatibility.
- Adjusting to a shrinking job market for unskilled entrants. This will place increased responsibility on the schools to ensure that students pursue and achieve higher levels of skill competencies. Compensatory programs must be included.
- Countering discriminatory practices against minorities, women, aliens locked out of desirable jobs in the labor market. Schools need to serve as advocates for the victims of discrimination through intensive collaboration with the employing community.
- Acknowledging employer dissatisfaction in such vital areas as communication skills, computational skills, and attitudinal modes with candor and courage. Improvements in the quality of presecondary and secondary instructional programs will be required to remove these impediments.

In a midyear report to the Board of Education (May 1979) the Chancellor of the New York City School System outlined some of the strategies which will be employed by the New York City schools to strengthen the various components of the system:

The expectations of young people for meaningful and adequately salaried positions in the City's economy must be supported not only by their confidence in their own basic skills, but also by their understanding and preparation for the career they chose. The linkages between schools and jobs must be strengthened. . . . We do not at present have enough vocational programs to meet student needs. We are turning away thousands of students every year. . . .

The schools must accept the responsibility for the adequacies of their graduates. In fulfilling this responsibility, the schools should be guided by goals appropriate to the demands of the 1980's. Such goals are relevant not only to the large urban school systems, but to institutions of training throughout the nation. They should include the following:

- Promote flexible scheduling and programming in vocational training institutions to allow open entry and open exit.
- Gear programs to competencies rather than fixed time frames, to accommodate both in-school candidates and adults.
- Strengthen programs of articulated training to ease the movement from secondary schools to postsecondary institutions and adult training institutions.
- Develop comprehensive centers, serving youth and adults, providing intake and assessment, referral for training and/or job placement, and support services such as child care, basic education, English-as-a-second language.
- Expand subsidized work experience opportunities for secondary students, and for out-of-school persons, using the work experience to complement institutional training and to develop behavioral skills necessary for success in the job market.
- Promote the expansion of public works programs to assure reasonable levels of employment opportunity, particularly during periods of economic stagnation or slump.
- Provide academic skills upgrading integrated with vocational training to increase employability of secondary and out-of-school students.

As we enter the decade of the 80's and face the changes which must be implemented to meet its demands, we should not lose sight of the successful experiences of recent graduates of vocational training programs. Followup studies of students provide an evaluative tool which helps the system assess its adequacies and signals the need for change.

A recently completed comprehensive survey of June 1979 graduates of the New York City Board of Education's vocational and occupational education programs found 86 percent of those responding continuing their education and/or employed. Of the 20,513 graduates of the secondary school occupational programs, 41 percent, or 8,419, were located through two questionnaire mailings, an intensive three-week telephone survey, and the inspection of student enrollments in the City University. The study was undertaken by the Office of Occupational and Career Education as part of a rigorous evaluation and planning program.

The results of this study reconfirm the belief that occupational education programs are effective both in motivating students to stay in school and continue into higher education and in preparing them for productive employment. Sixty-three percent of the graduates surveyed are continuing their education either in a community college or other training facility, and many of these individuals also reported that they are employed full- or part-time. Of the 23 percent employed, 42 percent said that they were in a field related to their training, 13 percent in "slightly related" fields, 38 percent in "unrelated" jobs, and 7 percent in the military. The high percentage of students continuing their studies suggests that these students are highly motivated. One might safely infer that this motivation is rooted in positive attitudes developed through high school occupational training experiences. One might also conclude that these students are sensitive to the ever-increasing labor market demands for high skills. The sensitivity to student deficiencies, to special population needs, to the requirements of a changing labor market must be shared by school systems, in cooperation with the employing community.

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EIGHT

Research in Learning Styles

William C. Knaak

INTRODUCTION

Because individuals approach their learning so differently and in so many ways not observable in group studies, there is a growing realization that more educational research should examine individual learning. During the 80's, I believe that researchers will begin to focus on determining what helps the individual student learn and to ease away from seeking perfect methodological innovations for groups of students. For example, there will probably be more emphasis on the case study approach. According to one researcher:

> Case studies are likely to continue to be popular because of their style and to be useful for exploration for those who search for explanatory laws. And, moreover, because of the universality and importance of experiential understanding, and because of their compatability with such understanding, case studies can be expected to continue to have an epistemological advantage over other inquiry methods as a basis for naturalistic generalization. (12)

Furthermore, those who are looking for clues as to where education is heading would do well to consider Public Law 94–142, the Education for all Handicapped Children Act. This act requires school districts to "evaluate the learning needs of each child, in consultation with parents and advisers, and develop an individual education program to meet these needs."

It is useful to remember that this act had strong support in the Congress of the United States, passing with a vote of 404 to 1 in the House of Representatives and 87 to 7 in the Senate. Thus it is a clear mandate from the elected representatives of the people. Dean C. Corrigan has said, "It is unlikely that another educational event of such powerful human consequence will occur in our professional lifetime" (4a).

Past educational practices have emphasized such questions as the following: What is the best kind of teacher for the group? What is the best method of instruction for the group? What is the best instructional material for the group? But the 80's will see a movement away from the educational trap of specifying the quality of instruction in terms of group results. I believe that many educational institutions, perhaps stimulated by the courts, will come to realize that meeting the learning needs of all students can best be accomplished with an individual learning plan for each child.

It is possible for a school learning system to initiate the very different assumption that individual students may need very different types and qualities of instruction to achieve mastery. That is, different students can learn the same content and objectives of instruction as a result of very different types of instruction. The quality of instruction may be defined in terms of the degree to which the presentation, explanation, and ordering of elements of the task to be learned approach the optimum for a given learner. This is really the essence of PL 94–142.

This article will discuss several research-recommended learning style options for students in vocational education programs. Among such options are learning for mastery (LFM), personalized system of instruction (PSI), competency-based vocational education (CBVE), cognitive style mapping (CSM), cooperative learning, and simulation.

LEARNING FOR MASTERY

One of the current rapidly developing trends in learning styles is "Learning for Mastery." Briefly stated, LFM involves defining the required competencies, designing instruction to shape those competencies, designing instruments to ascertain when individual competence has been achieved, and monitoring the process very carefully.

Instruction in LFM is usually offered initially to a group of students. When individual students in a group do not learn, however, alternative treatments are tried with each student until nearly all have achieved mastery. After 15 years of experimentation and experience in more than 3,000 schools, the effectiveness of learning for mastery has

been well documented. It is consistently more effective than traditional instruction (8). Major LFM efforts are underway in such large urban centers as Chicago, New Orleans, Washington D.C., and New York City, as well as in smaller school districts across the country.

PERSONALIZED SYSTEM OF INSTRUCTION

Learning for mastery, combined with a personalized system of instruction, may become the foremost educational tool of the century (9). A growing number of vocational-technical centers in the country are effectively utilizing mastery learning and a PSI in secondary and postsecondary vocational programs, including the 916 Area Vo-Tech Institute in White Bear Lake, Minnesota; the Hennepin County Technical Centers in Edina, Minnesota; the Fox Valley Vo-Tech Center in Appleton, Wisconsin; the Stephenson Area Career Center in Freeport, Illinois; the Ridge Vo-Tech Center in Haines City, Florida; the Pinellas Vocational-Technical Institute in Clearwater, Florida; and the Moore-Norman Area Vocational-Technical School in Norman, Oklahoma. In addition, the recently opened Hubert H. Humphrey Occupational Resource Center in Boston uses an instruction designed for LFM-PSI, and the State Division of Vocational-Technical Education in Kentucky has also strongly supported installations of individual vocational LFM-PSI programs in vocational centers in that state.

COMPETENCY-BASED VOCATIONAL EDUCATION

All the institutions and programs previously mentioned are also described as offering competency-based vocational education. This learning approach is nearly synonymous with mastery learning, in that mastery learning is based on mastering competencies. However, CBVE as used here should not be confused with minimum competency testing as it is advocated by many state legislatures. Both LFM and CBVE are dedicated to having nearly all students perform at an A or a B level, whereas minimum competency testing usually implies a survival level. Also, LFM and CBVE systems do not exclude students who do not pass the mastery tests. Rather, they provide these students with additional educational treatments more suited to their learning style and needs.

Research on mastery learning conducted by Carroll (4) in the 60's and by Block (1) and Bloom (2) in the 70's strongly suggests that given adequate learning time and favorable personalized learning conditions, 95 percent of the people of the world can learn almost anything. Further,

given favorable learning conditions people become more similar as to rate of learning, learning ability, and motivation for further learning.

Mastery learning also has some broad societal implications:

1. Mastery learners have learned to cooperate, rather than compete.
2. Mastery learners have a sense of adequacy. There are powerful relationships between achievement in school and self-concept.
3. There is a powerful relationship between achievement in school and mental health (2).

In brief, competency-based learning for mastery has proven to be clearly superior to the traditional approach to instruction. Within LFM, personalized or individualized designs have been demonstrated to be more effective than in LFM traditional curricula. Therefore LFM synergized with PSI can be expected to have a profound impact on students at all educational levels during the 80's.

COGNITIVE STYLE MAPPING

Once a school or a teacher has succeeded in breaking out of the group instruction lockstep, many other options for varying instruction to meet learning styles and needs of individual students become available. One of these is cognitive style mapping.

"Cognitive style" is the preferred way of receiving, organizing, and internalizing all the information that the individual remembers and thinks about. Significant and consistent differences in the ways individuals handle this process have become known as individual cognitive styles. Styles may be conceptualized as habitual mental strategies, preferences, or thought processes utilized in a person's typical mode of problem solving, thinking, and remembering. This cognitive process is broad enough to include social and interpersonal functionings. Cognitive style mapping is the methodology of charting a student's cognitive style, which is ascertained through a diagnostic test battery. The cognitive style test helps students understand their preferred information intake process and the ways in which they relate that information to gain meaning, and then displays that information to the student as a computer printout map.

Thus, CSM is a success-oriented, prescriptive approach to learning management that can be used on a day-to-day basis by both students and instructors. It utilizes a diagnostic process to determine 27 achievement and personality components that make up the individual's pre-

ferred learning style. Mapping translates these functions into the practical selection of learning strategy alternatives, including different types of media. The map can be used by the student, teachers, and other learning specialists on a day-to-day basis to help the student with the learning process. Obviously, the mapping process is more valuable if instruction has been personalized to the extent that there are more instructional alternatives available to meet the needs of the student's individual learning style.

Different institutions may have different philosophies about their use of CSM. At the 916 Area Vo-Tech Institute, for example, the tests are given as soon as a student is identified as having learning problems. At the request of the instructor, the tests are also given to all students in a program and to individual students. About 80 percent of the 56 vocational programs are involved in CSM at one of the levels described.

On the other hand, at the Fox Valley Vo-Tech Center, all students are routinely mapped during the admissions process. The rationale for mapping all students is that mapping is worthwhile and the process is more orderly if done routinely at admissions. The rationale for partial testing emphasizes that there may be more impact of results if the mapping is done at the point of greatest perceived need. Further, if a student is doing well in the instructional program, and is happy with it, it is quite probable that the method of instruction is meeting that student's cognitive needs rather well and mapping may be redundant.

A major advantage of CSM as a learning technology is that it is relatively cheap. Tests and computer analysis are available at modest cost. Compared to hardware costs of some mediated or automated on-line computer-based systems, it is very inexpensive. Teachers and students say it is meaningful and valuable to them. Its increased voluntary usage in vocational education has been quite phenomenal.

Most research on the value of CSM in vo-tech institutes has been developmental in character, however. At the present time there appears to be no empirical research on the impact of the process on students. One reason is that CSM is being utilized in vo-tech institutions whose funding base does not permit employment of sufficient research personnel to carry on this type of research. Another reason is that the open-entry, open-exit policies of some schools (the 916 Area Vo-Tech Institute, for example) make pairing of either groups or individuals nearly impossible. Also, as people work with CSM, the differences among individual learning styles become so apparent that it is difficult to accept any individual much less a group as being "like" the experimental subject, except for the treatment process. Further, persons not requesting or needing the cognitive mapping could not serve as a control be-

cause they are learning well in the traditional system. The candidates for control would be those who are in difficulty with their learning and need the help of the mapping. It would be difficult to deny them the assistance when there is already developmental research documentation and general consensus that the cognitive mapping process is effective.

On balance, in looking ahead in the 80's it appears that CSM is well established, effective for students and teachers, and economical; and its usage will continue to grow even if an empirical base of supporting research has not been and may not be developed.

COOPERATIVE LEARNING

In the past few years, cooperative learning has been experiencing a substantial revival in educational research and practice (11). Because of its close ties to the burgeoning learning for mastery and personalized system of instruction, that revival is apt to continue and grow in the 80's. In a review of 28 field projects, Slavin found cooperative learning to be useful in increasing student achievement; and in assisting positive race relations, mutual concern among students, student self-esteem, and other positive outcomes. Most cooperative learning methods can be categorized as "group investigation" or "peer tutoring." The close ties of these methods to learning for mastery is emphasized by the fact that in the Bloom studies (2) peer assistance was the single most effective educational treatment when the student could not learn in the traditional way. At the 916 Vo-Tech Institute in Minnesota, which utilizes a personalized system of instruction as well as learning for mastery, students often establish small, two-to-four-person groups to enhance their learning. It is also well established that the helpers in a peer-learning situation benefit from the reinforcement, at best equally with the person being helped. Futurist Scott Erickson sees peer-learning as the dominant learning style by the late 1980's.

SIMULATION

Simulation equipment for instruction is growing and will probably continue to grow in the 80's (13). One of the first educational simulators, still well known, was the Link Instrument Trainer for the training of aircraft pilots. This trainer unit supplied the pilot-learner with the same instrumentation as the real aireraft and duplicated flying conditions so effectively that the flying sensation was quite real. Newer, more sophisticated simulators for the upgrading of commercial pilots are now in

regular use. This is the only viable way that pilots can "practice" landing with two engines not working, in a violent windstorm, without undue hazard to life and a multimillion dollar airplane. Vocational education has moved more slowly into the simulator concept of instruction because vocational educators have long held that experience on the "real thing," the tools and machines of the occupation itself, was superior to any simulation that could be derived. This view is still strong but there are certain types of instruction whose first phases can be provided more effectively, more safely, and more economically in simulated learning situations. The use of an instructional truckdriving simulator for the early part of truckdriver training is probably one of the best illustrations of this type of training for the following reasons:

1. The instructional equipment (truck and tractor) is inherently dangerous in the hands of the trainee until he has developed the knowledge and skill to adjust quickly to emergency situations.
2. The instructional equipment (truck and trailer) is too expensive ($50,000 plus high fuel cost) to be used for the entire training process.
3. The instructional equipment (truck and trailer) has a mechanism (16-position shift) that is so complex it must be learned separately before a totally integrated driving performance is required.
4. A particular learning situation does not occur frequently enough in normal operation to acquire a sufficient degree of skill (e.g., air brake failure in truck driving) (10).

OTHER LEARNING TECHNIQUES

Several other learning approaches appear to have promise for vocational education but have not been tested in on-line programs at this time. A very popular approach in Bulgaria using yoga techniques has reportedly had outstanding success in learning technical subjects such as physics (5). The successful Zen approach to learning perceptual-motor skills such as tennis would appear to have implication for vocational training as well (6).

The use of computer-assisted instruction (CAI) did not expand in the 60's and 70's at the predicted rate. There are several primary reasons for this lack of acceleration. First, hardware costs, especially for centralized systems, are very high (3). Second, the staff time cost for development of quality programs is very high; hence the cost of the courseware

development is also high. At the 916 Area Vo-Tech Institute where CAI has been developed in specific programs over the last six years, the range of the ratio of staff time to student program time varies from 50 to 100 hours of development time per hour of student instruction on Plato. Third, there is a scarcity of qualified people to do quality work. Ideally the developer is a combination of educational psychologist, textbook writer, and audiovisual education specialist. Finally, CAI is almost always regarded as a support mechanism in the classroom, rather than as a source of instruction. As Heinich (7) says:

> Education at the present time is a craft, with emphasis on the use of tools by more or less skilled artisans. The decision whether to use and how to use these various tools is made solely by the artisans —the instructors. And the decisions are generally made on an ad hoc basis at the point of use of the tools in the classroom when the occasion arises. An interesting point to remember is that in any process, if you are in a position of decisionmaking ad hoc, you can effectively prevent the development of a technology.

Under these circumstances, CAI is seldom cost-effective in a classroom setting. Hence, CAI expansion in the 80's is more probable in the private business sector than in school settings as we now know them.

CONCLUSION

In summary, in the 80's the growth of learning for mastery, personalized systems of instruction, and competency-based learning started in the 70's is apt to accelerate in vocational as well as in general education. With these changes in the organizational structure of education in place, many other educational variations to enhance student learning become possible. These include cognitive style mapping, cooperative learning, peer learning, simulation, and a number of mind-focus experiences such as yoga and Zen. Computer-assisted instruction also remains a viable alternative if a breakthrough can be found in hardware costs and in courseware development time.

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NINE

Career Guidance and Job Placement

Edwin L. Herr and Thomas E. Long

INTRODUCTION

At the beginning of this century, many U.S. educators, government officials, and persons from labor and industry engaged in a continuing debate about the specific focus which vocational education should take. The content of this debate represents, in large measure, the roots for current views of career guidance and job placement.

Some of these early observers felt strongly that vocational education should confine itself to training students in the knowledge and skills required by the burgeoning occupational structure and that other social mechanisms should contend with problems of vocational awareness, choice, and adjustment. Such observers were concerned with the rapidly growing need for competent workers.

Other observers caught up in the social reforms of the times had a more comprehensive view of vocational education. These persons believed that vocational education should emphasize student exploration and provide opportunities for potential workers to learn of the social and cultural background of their vocations as well as the skills involved. These observers believed that vocational education should provide training not only in occupation-specific task skills, but also in

vocational and civic intelligence. Their goal for vocational education was training not just competent workers but competent persons.

The broader view of vocational education prevailed. Indeed, vocational education and vocational guidance entered the twentieth century in the United States as partners. It was clear then, as it is now, that excellent training alone will not ensure that young people will choose effectively or find an appropriate niche in the occupational structure by which to employ their skills. Indeed, the first two decades of the twentieth century passed with leaders in vocational education and vocational guidance studying and implementing ways by which excellent training and effective guidance could jointly occur. Bibliotherapy, the fledgling use of tests, tryouts through training, worker interviews became standard ways to help young people consider their opportunities, assess their preferences and goals, and match their ideals with their realities.

Following World War I, vocational education and vocational guidance severed their initial partnership; and during the next several decades, they tended to march to different forces, to become increasingly professionalized, and to develop their separate technologies. As a result of a growing knowledge of work force dynamics, of shifts in national policy, and of the pressures of rising unemployment, however, in the 1950's and 1960's a base was laid for a reestablishment of the partnership which vocational education and vocational guidance earlier shared. This partnership was reaffirmed in the Vocational Education Act of 1963 and in the VEA amendments of 1968.

From the early 1960's to the present day, the term *career guidance* has gradually replaced the earlier term *vocational guidance*, at first subtly and tentatively, until it now tends to dominate the language in the field. The following sections will describe the current emphasis of career guidance in vocational education.

THE EXPANDING ROLE OF CAREER GUIDANCE IN VOCATIONAL EDUCATION

Both the role of vocational education and the need for career-related guidance are increasing. Educators who are interested in learning what citizens now expect related to career guidance for all students and preparation for work for those not planning for college will find overwhelming support for both points in the Phi Delta Kappa-sponsored Gallup Polls of Public Attitudes toward Education (1) and in such analyses as Herr and Cramer (2).

Citizen concern for career-related issues is also reflected in the interest and approval extended to career education around the country, in legislation related to vocational and career training, and in the passage of the Comprehensive Employment and Training Act. Each of these public concerns and actions includes support for career guidance, as well as preparation for skilled and technical specialties.

To help people cope with their unique needs for vocational and educational planning, guidance programs have traditionally been involved in delivering five basic services. These are as follows:

1. *The Inventory Service*—or individual appraisal service—helps the individual appraise and understand her/himself.
2. *The Information Service*—provides information the student/client needs.
3. *The Placement Service*—contributes to optimum development by planning and negotiating both in-school and out-of-school developmental placements.
4. *The Followup Service*—monitors client development.
5. *The Counseling Service*—provides one-to-one assistance in academic, vocational, personal, social, emotional problem solving.

Historically, each of these services has been offered on a demand basis. That is, they were implemented primarily when students or adults came to a counselor for help either at a point of occupational dislocation, choice crisis, or original job placement. One-to-one counseling was seen as the primary method of delivering vocational guidance. The unit of concern in such perspectives was usually the differences in work activity across occupations in relation to the individual characteristics of interest, aptitude, and skill to which such requirements could be matched. Thus, job placement tended to be seen as an event in time on which vocational guidance services could be focused. Once the immediate choice was completed, it was assumed that the need for vocational guidance was essentially finished, probably for life.

Contemporary models of career guidance go beyond these traditional five services. They tend to be group-oriented and developmental in emphasis; and they see placement not as an event but as a process. Such approaches stress the need to provide students with knowledge, attitudes, and skills regarding personal characteristics and educational/occupational options before they are needed so that students can evolve a career plan as part of their educational development. Such a view of career guidance gives great importance to planned programs, hands-on,

experiences, and the involvement of teachers, parents, and others in achieving the goals of the career guidance effort.

Career guidance programs emphasize the importance of developing self-awareness in all students as a base from which they can evaluate any alternatives available to them. In relation to careers and vocational choice, these services or programmatic activities stimulate students to consider what is possible for them, what is reasonable for them, and what is likely for them. These activities deal with the realms of reality, possibility, and probability; and they help clients use information and techniques which are relevant to their particular choice alternatives.

Such programs help students decide upon the right training for available jobs. However, educators have come to understand that there is no *one right* job for most people. Virtually all persons have multipotentiality; they are capable of performing well in many occupations if they obtain appropriate training. Because most individuals will make more than one occupational choice, they must therefore understand contingency planning and goal setting which carries from immediate to intermediate and future plans after entering the labor force.

Field (specific occupational areas) and level (vertical mobility and responsibility) changes occur throughout the lifespan because of the effects of retraining, promotion, dissatisfaction, migration, industrial shifts, economic expansion or depression, and handicapping injury. In 1972 the National Advisory Council on Vocational Education noted that the typical U.S. worker changes jobs somewhere between five and seven times in a lifetime (5). These include both field and level changes. As a result, vocational and career guidance needs of individuals are continuous rather than a mere satisfaction of singular events. Effective career planning and learning have come to be seen as very important in our complex and changing society.

The importance of career guidance emphasis on effective decision-making is related to the fact that careers are built by small sequential steps. For some students these steps are hit-or-miss, trial-and-error transactions which sooner or later result in the individual obtaining some degree of stability and satisfaction.

Until recently, the career guidance view described above was not typically a part of vocational education. The latter carried the assumption that students who entered a vocational education curriculum had already chosen an occupational area for which such a curriculum was simply preparation. In such a view, exploration is thought to have occurred before the choice of curriculum and thus there is no need for exploration or an emphasis on choice-making.

As the diversity of vocational education offerings has grown and

the potential occupational outcomes become more complex, vocational education legislation and practice have increasingly accommodated a broader view of career guidance. In such instances, "employability" is seen as more than "marketability." Employability includes not just the technical skills required to effectively perform occupational work activity. Also significant is the discipline, the commitment, and the knowledge required to choose a preferred occupation, to locate potential employers, and to engage in the type of job search and interview behavior which will lead to an appropriate job placement. In addition to performance components, then, employability includes affective components which deserve to be developed in sequential or parallel fashion.

Using "employability" as a goal of vocational education, placement is conceived as a process which takes place throughout the instructional process. Career guidance tends to be incorporated into the content and the mechanisms which make up the vocational education curriculum; in career education parlance, career guidance content and process become infused into all aspects of vocational education.

THE TEACHER'S ROLE IN CAREER GUIDANCE AND JOB PLACEMENT

In traditional views of vocational guidance, the principal actor with the student is the counselor. In current views of career guidance, the teacher becomes a major actor and contributes in diverse ways to the career guidance program.

Selected examples of ways in which teachers can contribute to career guidance include the following:

1. Supporting attitudes of personal mastery or competence among students
2. Providing information in specific subject areas which help students link what they are doing in a particular course with future educational or occupational options
3. Reinforcing in students the importance of formulating positive values toward work and education, and acquiring information about the characteristics of alternatives in each
4. Assisting students to acquire and apply vocabulary relevant to occupational and educational differences, coping behaviors, self characteristics and decisionmaking strategies
5. Helping students acknowledge the importance of individual characteristics in shaping their future worklife

6. Stimulating colleges or administrators to build experiences into curricula which focus on exploration (e.g., access to work study programs, cooperative work experiences, simulations, career internships)
7. Providing career exploratory experiences to help students gain an understanding of worker characteristics and work requirements in which specific types of subject matter are important
8. Helping parents understand and encourage the career development process as it relates to their children
9. Providing students, teachers, and counselors with information about vocational educational offerings, basic and academic skills and knowledge needed in various occupational fields, and the kinds of careers for which students are prepared
10. Encouraging employers to assist in or to provide information useful in expanding student awareness of career opportunities. (2)

However important each of these teacher contributions is to career guidance, current perspectives argue that they should be systematically related to some conceptual frame of reference which identifies the tasks, the knowledge, and the behaviors that each student needs to achieve as a means to greater employability. Many such lists have emerged from research and theory. One of them, the Minnesota model of Career Management Tasks, takes a developmental view of career development, including the tasks appropriate to different life stages. Only those major tasks expected to be accomplished in grades 7 to 12 are included here:

Asserting Stage—Grades 7–9

1. Clarification of a self-concept
2. Assumption of responsibility for career planning
3. Formulation of tentative career goals
4. Acquiring knowledge of occupations, work settings, and lifestyles
5. Acquiring knowledge of educational and vocational resources
6. Awareness of the decisionmaking process
7. Acquiring a sense of independence

Organizing Stages—Grades 10–12

1. Reality testing of a self-concept
2. Awareness of preferred lifestyle

3. Reformulation of tentative career goals
4. Increasing knowledge of and experience in occupation and work settings
5. Acquiring knowledge of educational and vocational paths
6. Clarification of the decisionmaking process as related to self
7. Commitment with tentativeness within a changing world.(6)

Such tasks represent the bases for organizing knowledge, experiences, and skill in curriculum. They can serve as the stimuli for learning activity packages, workshops, minimodules, and units. When combined with the teacher functions identified above, they give a rationale and a sense of direction to teacher contributions, in vocational or in general education, to career guidance, to career education, and to job placement.

PRE-VOCATIONAL INFLUENCES (K-6)

Many career development tasks can and should be addressed in the elementary school. Both counselors and teachers, in their respective settings, can promote the young child's search for self and career awareness. They can undertake explorations of occupations, lifestyles, and other career-related issues. They can promote economic awareness and work ethic issues. They can teach career exploration and decisionmaking skills. Teacher and counselor encouragement can motivate students to pursue such activities, thus promoting the client's career development.

Teachers will find students in the elementary school excited by career guidance and career educational efforts. Students find these topics exciting because of their developmental influences. They want to understand themselves, their abilities, aptitudes, interests, and identities. They want to know how schooling relates to the community and its work. Personal guidance and career education efforts further promote individual development by helping to make academic subject matter relevant to the questions elementary school students are attempting to clarify and answer.

Elementary and secondary teachers who are interested in promoting career development in their instruction might read *Instructional Strategies for Career Development* (3), and *Career Education in the Academic Classroom* (4).

CONCLUSION

Much more could be said about the role of career guidance and job placement in vocational education and, indeed, in education more broadly conceived. Suffice it to say, however, that in information-rich societies where the value of personal choice is an integral tenet of the political belief system, effective programs of career guidance and job placement are essential provisions of education, not luxuries. Equally important is the recognition that fundamental to such program efforts are both counselor and teacher contributions. The issues of career and educational planning and job placement require more than any one set of specialists acting alone can provide.

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TEN

Cooperative Work Experiences: Schools, Business, and Industry

John Blackwell

INTRODUCTION

Many efforts toward curriculum improvement in the twentieth century have attempted to diminish the use of the textbook as the curriculum plan. While the textbook will undoubtedly survive as a major curricular tool, other learning techniques have been developed to reinforce and expand student understandings. This is especially true in vocational education. Obviously it is very difficult to simulate in the classroom the requisite activities to develop the skills, knowledge, and attitudes necessary to perform at acceptable employment standards. Many vocational educators believe that cooperation between schools and business and industry is the answer. Therefore, among the various forms of vocational education programs in existence today are cooperative work experience programs. These programs enable students who complete them to acquire the competencies needed for success in basic entry-level jobs. From their inception these programs are designed to help students develop the competencies they can use to gain employment and progress therein. After several years of experience, there seems to be merit in this practice.

This article discusses criteria for setting up worksite learning pro-

grams, work-training methods and plans, and employment opportunities for student participants in such programs.

WORKSITE LEARNING

The key to worksite learning is the word *learning.* Work experience with no purpose, goals, or direction for the worker and the supervisor will have no lasting, inherent values as a structured program to enhance learning.

To assure the student a reasonable chance of success with the work experience program as an integral part of the curriculum, several criteria must be established before this training begins. First, the student should decide upon a career objective, with the assistance of the counselor and the instructor. Second, the career objective should be the basis for developing a training or learning plan. The plan should be a structured yet flexible guide to help the student and the instructor/supervisor through a series of tasks designed to develop specific competencies in several areas of the chosen field of work. Third, various methods of evaluating student progress or lack of progress in classroom and live work-experience activities should be determined. Such evaluation should involve both the employer/supervisor and the classroom instructor for their respective areas.

Critically important for off-campus learning situations is the selection of worksites. This selection should be made according to a systematic plan. The following is a list of factors that should be considered:

1. *Location.* This includes both distance and stability of the worksite. How far is the site from the classroom? Can the student be expected to train at the site for a reasonable length of time? Also consider the site environment and the personnel with whom the student will have contact. In other words, consider the possible influences, good or bad, of the total situation upon the student.
2. *Equipment and Facilities.* Before selecting a site, inspect the equipment and facilities. Poor, outdated, unsafe equipment is not only a safety factor but can prevent proper training. The same is true for buildings and other facilities.
3. *Employer/Supervisor Attitude.* Consider finding the answer to some basic questions before selecting the worksite: Does the trainer believe in helping the student develop employment competencies? Does the employer/supervisor want to participate in the program? Does the employer/supervisor believe this program is worthwhile?

4. *Knowledge of the Training Program.* Expend every effort to *train* the *trainer,* so to speak. Have reasonable assurances that the trainer understands the purpose of the program, the wage and hour rules, the scope of the learning experience, the safety precautions, and all other aspects of the training agreement.

5. *Worksite Instruction.* The person who is to do the on-site instruction is of utmost importance. This person exposes the learner to the key phase of the training period—that of actually performing during a live work situation.

WORK-TRAINING METHODS AND PLANS

In the early 1900's, vocational educators recognized that the first step in designing an instructional program for teaching and training prospective workers was to identify the skills, the knowledge, and the attitudes needed by a competent worker to enter, hold, and advance in a trade.

Many early curriculum writers used terms such as "activity analysis" and "job analysis." During World War I a plan was developed to obtain and identify skills needed by workers in specific trades and wartime jobs. In the 20's the Chicago Board of Education conducted a program using the technique of *trade analysis,* and during World War II the military used the analysis procedure to determine competencies for different training programs.

While the curricula of many earlier vocational educators envisioned performance-based instruction, such instruction was viewed primarily as a general guideline. Today, however, performance-based instruction is viewed as a means of assuring that the instructor/supervisor and the learner are dealing only with predetermined activities that will develop specific competencies for specific jobs.

An effective current method for enhancement of learning and greater accountability is the "training plan." Contemporary work experience programs use the training plan as an instructional instrument designed for the individual according to the person's career objective. A typical training plan includes tasks and competencies of varying levels of complexity. Usually the trainee begins at the lowest level and progresses to the highest level tasks. The classroom instructor and the work supervisor jointly see that the student performs all of the tasks listed in the training plan. Many plans are cross-referenced with other pertinent and available information for student use. For example, in the training plan used in Marketing and Distributive Education, the tasks

are cross-referenced with the competencies in certain Learning Activity Packages (LAPs). Here, again, the training plan is developed for one individual according to the individual's career objective.

A new concept of cooperative work experience program is for the teacher-coordinator/instructor/learning manager to move right into the work community with an office and classroom there rather than on the school campus. In some larger business and industrial areas with giant malls, shopping centers, and industrial parks, the instructor places interested students with business and industry for training and remains in the immediate area for consultation and coordination.

The concept of the *student* and the *school* classroom being in the community tends to create a "live work" environment as close as possible to the real situation. According to some who have experimented with this idea, the "work attitude" develops faster and to a greater degree than in most traditional programs.

These emerging work-training methods and plans have also brought about new terms for teaching personnel. Instead of "teachers" or "instructors," there are "teacher-coordinators," "learning managers," "work experience supervisors," and similar terms. Still another effort to develop new and more effective training programs is the cooperation between CETA and vocational education. Some states are already involved in the program. One strategy has been to contract with vocational education programs to provide the classroom training while CETA provides the work-experience training.

A major challenge to education and training programs will be efficient planning in order to meet the future demands of the labor market using the skills of those already employed. This type of cooperation utilizing the existing facilities as well as the expertise of both groups appears to be a strategic move for the future, especially during cost-conscious times.

EMPLOYMENT OPPORTUNITIES

In the recent past the labor market has exploded with opportunities for people interested in midmanagement jobs. Many different types of businesses with a great number of departments require people who are willing to accept the responsibilities of management. Future prospects for such jobs are verified by the *Occupational Outlook Handbook* (1). Leading the way in providing these jobs are the food marketing industry, the food service industry—especially the fast food chain organizations—the hotel/motel industry, the health occupation area, the personal service

and service repair industry. In addition, other industries, including general merchandising of all types, offer many jobs for secondary and two-year postsecondary graduates of vocational and technical institutions seeking jobs in transportation, shop management, and most other occupational areas.

Most employers in business and industry welcome applicants who have had a year or more of structured, well-supervised work experience and related studies in management. Since much of management involves dealing with human beings, a person with live work experience has firsthand knowledge of the human relations aspect of the work and therefore should have the advantage when competing with others for such jobs.

Why can business and industry, especially retail and service occupations, offer greater opportunities for midmanagement jobs? Primarily because of the multihour competition for the consumer's dollar. Increased hours of operation require additional managers for shift work. A case in point is the tremendous development of the all-weather mall. Since in many families both parents are working, and the children are in school or working, too, more shopping takes place between 6 and 10 P.M. than during any other hours of the day. In many instances entire families go to these malls, regardless of weather, to eat, to have their car or appliances repaired, or just to shop.

One important aspect of midmanagement jobs is the opportunities afforded both sexes. Traditionally these opportunities have been found in fields such as retailing. Now, however, many other areas of the labor market are opening to qualified and interested females as well as males.

Thus societal change, along with new marketing ideas, has had and will continue to have a significant impact on the job market. Vocational education, particularly through such programs as cooperative work experiences, can help prepare students for many of these new employment opportunities.

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ELEVEN

Youth Organizations: A Learning Medium

Merle Rhoades

INTRODUCTION

Mark disliked school; he did not see any value in the educational system. He disliked his parents and had no appreciation of their values. With no goals in life the 16-year-old lad left home to seek an identity within society and became a juvenile delinquent. While trying to make it on his own, he suddenly became aware that he was missing the ingredients for a healthy, productive life. Therefore he returned to school, enrolling in a vocational education program. He also became involved in a vocational student organization at the secondary level where, united with students who had a common interest in achieving occupational goals, he learned to set his own goals and to establish a plan to reach those goals. Mark developed an understanding of himself by evaluating and modifying his own behavior. In addition, he developed a feeling of cooperation, brotherhood, and good will toward others. Mark's peers learned to respect his ideas and elected him to a state office of the vocational student organization. He found an identity within society and returned to his family with an understanding of their values. He also developed skills through a vocational program that allowed him to function well in the world of work.

Candy is another illustration of the value of vocational student organizations. A divorcee, the mother of three children, and a welfare recipient, Candy had no real understanding of her role in the work force. At 26 she had no career goals. Even though she had a few basic skills, she had faced defeat so many times that her self-esteem was very low. Then she enrolled in a vocational program at a community college and developed a desire to become involved within the school and the community through a postsecondary vocational student organization. She spoke often to community organizations of the value of vocational training and the need to conserve human and natural resources. Candy was elected secretary of a postsecondary vocational student organization and later student body president, in which position she developed skills in parliamentary law. Her involvement in these organizations helped her to remain mentally healthy, a benefit to her family as well as to herself. After completing a vocational program, Candy obtained a high-salaried, entry-level job and was able to maintain a high level of self-esteem after employment. Within the first six months on the job, she received a promotion to a supervisory position, due, in no small measure, to her opportunity to develop leadership qualities through a vocational student organization.

A vocational student organization can be defined as a group that correlates its activities with a vocational program to develop leadership qualities within an individual to enable him or her to become a productive citizen in the working world. As cocurricular activities, vocational student organizations can enhance the instruction within vocational programs for all students, not only for a Mark or a Candy. These organizations have great potential as a learning medium in vocational education in the 80's to help develop future leaders.

LEADERSHIP

What is a leader? A leader is one who recognizes the direction in which a group is going and keeps ahead of it with ideas and actions that may influence the thinking and the behavior of group members. Through modification and expansion by each member, the ideas then become the member's own, thus helping each one contribute to the projects established to reach the group's goals. A good leader is sensitive to the needs of each member in the group, is willing to serve the members, is willing to achieve the group's goals, and is willing to strive to improve the group for the benefit of all members.

Leadership behavior can be learned through study and application.

It requires a desire to improve oneself and a determination to develop the abilities that make a good leader. Too often, because of fear of failure, of making mistakes that will hinder them in accomplishing a goal, students avoid becoming involved in activities. But people can learn from mistakes and setbacks, and can become successful in achieving their goals. The lives of many famous people such as Abraham Lincoln, Franklin D. Roosevelt, Milton Hershey, Jane Addams, and Shirley Chisholm are good illustrations. These people had the determination to succeed. They were able to achieve their life goals because they developed confidence within themselves, despite failure at some tasks they tried to accomplish. They learned to rely upon their past experiences in order to achieve tasks that seemed impossible to accomplish.

DEVELOPING LEADERSHIP QUALITIES

Advisers of vocational student organizations can provide the environment for students to have experiences that will help them develop leadership qualities, including confidence, respect, esteem, goal setting and decisionmaking skills.

Confidence is a feeling of security—a feeling of believing, trusting, and respecting. Respect is a feeling of esteem or high regard for oneself or for another person. Confidence or respect can be developed by looking at the positive characteristics of an individual. To do this, one must learn to look beyond the framework of an individual, to see what is inside in order to understand the person. A square provides a good illustration of this. When they look at a picture of a square, most people see only one aspect—four identical sides. But if they study the square at all, they can develop squares within the square and thus find many squares. So too, when an individual looks at a person, he or she has a tendency to see only one characteristic of the person. But with practice it is possible to see the many characteristics that are inside the individual, such as enthusiasm, dependability, modesty, and sincerity.

Before they can have respect for themselves or for other people, students must understand themselves. A helpful technique is self-evaluation. For example, have students list (on an index card) adjectives describing their weak points. After they have an opportunity to look at their weak points, they turn the card over and list adjectives describing their strong points. After completing this process, they write their names on the card above the strong points, and wear the cards as name

tags. By concentrating only on the strong points of each individual, students can develop mutual respect.

Students can also develop respect for others by exchanging compliments. For example, students divide into groups of four or five and then pay each other sincere, positive compliments. It is very difficult for some people to accept compliments and for others to give them. Practice is important in both cases. The best response to a compliment is a simple thank you. Some, however, will feel natural saying, "You have just made my day, thank you."

Students can develop esteem through a group exercise such as the following. Divide students into pairs; have them interview each other and then introduce each other to the entire class stating the partner's name, something unique about the partner, and the partner's career goals.

Once they have developed esteem, students are better able to establish individual goals. Establishing goals and a plan to achieve the goals are very important aspects of individual success. To exemplify the importance of establishing a goal, blindfold a student and give her/him a paper ball or some safe object to throw. Ask the student to shoot toward a goal by hitting a target such as a waste basket. After the student has attempted to hit the goal, remove the blindfold and ask the person to try again. The second time the goal is easier to hit because the individual can see it.

Like individuals, organizations must also establish goals that are within sight. After the goals have been identified, a plan must be developed. In order to establish a workable plan, decisions must be made to decide the best method or procedure to follow in reaching the goals. This process can be learned through group dynamics. For example, select an activity that involves a small group of people such as a one-week camping trip in the high northern mountains of the United States during the month of February. The group can go by jeep to within 50 miles of the camping site selected, but must walk that distance through the woods to reach the destination. List ten items that the group can take on the trip, and ask each person to determine the priority of each item in the success of the trip. The items may include a tent, dehydrated food, a box of matches, an ax, five gallons of water, a portable electric heating unit, a CB radio, a package of hamburger, a sleeping bag, and a cooking kettle. After each individual has arranged the list according to priority, each group of four or five individuals must agree upon a group priority by taking a consensus. Each group member should view any differences of opinion as a help in making the group decision, which should be based on the most logical reasoning of each member. This

exercise will illustrate the importance of decisionmaking for survival by individuals as well as by an organization. If each member within a group goes in a different direction, the organization cannot function and will not survive.

ECONOMIC UNDERSTANDINGS

The ability to make decisions has a definite impact upon our economy. Thus vocational students need a basic understanding of the function of our economy. Our system does not have a central economic plan like other systems. Instead, each individual has the right to own property; the right to choose what to produce; the right to choose how to produce; and the right to choose who will receive the product after it is produced. In a communistic or a socialistic economy, property is owned by a few and individual members of the economy do not participate in the decisionmaking process. In a free enterprise system, however, the future farmer has the right to own land and can choose what crops to plant; the future homemaker can choose the most nutritious foods to serve; the industrial trade student can choose from a variety of careers; the business student can (within limitations) select and use property as he or she desires. Our future leaders who are coming from vocational student organizations must learn to make decisions so that they, too, may participate effectively in our system.

Productivity plays an important role in our economy. To understand this, students need to understand the importance of utilizing human and natural resources efficiently. The efficient use of human resources is the use of skills in such a manner that the highest quality of work is produced in the shortest period of time. In addition to the sun, the earth contains limited quantities of natural resources—land, water, coal, oil, animals—used for producing food, fuel, and raw materials for the production of finished goods. If these resources are used up, human survival will be endangered. Therefore, it is important to use each resource to its fullest potential. A simulation exercise can explain this concept. Divide class members into groups of four or five people and give each group a limited number of supplies such as newspapers and straight pins (or wood, nails, hammers, and saws). Ask each group to design and produce five identical products—such as airplanes, boats, or hats—within 15 minutes. The adviser can make observation notes of each group's activities and relate them to the students after they complete the project. The adviser will notice that some groups will select a leader who is creative and artistic. The members of such groups will

perform according to the leader's instructions and will utilize their time and resources effectively to achieve the project objectives. Other groups will spend the entire time trying to decide who will be the leader, thus wasting their resources.

Another element of our economy is the profit motive. Individuals of all kinds—manufacturers, farmers, bakers, bankers, doctors, and automobile mechanics—engage in business to make a profit. The competition of supply and demand for a product or a service determines its price. Students should understand that the product with the greatest demand is the product produced at the highest quality and at the lowest price for that level of quality. They should learn to operate at their highest possible level of performance—on any machine, in any surroundings—so that their services will be in demand.

STUDENT ACTIVITIES

The reinforcement of confidence, respect, esteem, goal setting, and decisionmaking can take place through the development and implementation of well-planned activities in a vocational student organization. The accountability of such an organization lies within its program of work, a plan of activities for the members to use in order to meet the organization's goals. The plan states the goals, lists the activities, gives specific objectives for each activity, and identifies the officer or committee responsible for implementing the activity. If the membership of the organization is small, all members can help write the program of work. If the organization has more than 10 members, however, it is usually better to have the officers or a committee write the program of work and then have the membership review, modify, and adopt it.

Managing the organization by objectives provides for a smooth flow of communication. Under this system, the officers and committee chairpersons establish individual objectives (based upon the program of work) and prioritize them according to importance. The officers and committee chairpersons report monthly to the president on progress in achieving the objectives. The president reports the organization's progress to the adviser and the general membership. Through a democratic process, including the use of parliamentary law in the membership meetings, the membership decides if any modifications of the plan are necessary.

An important activity of vocational student organizations therefore is the study of parliamentary law and the democratic two-party election procedure. To assist in such study, professional parliamentarians are

available in most communities; and public officials, such as a county clerk or a city mayor, will talk to groups about the election process and instruct students about the responsibilities and duties of each public office in the local community.

Vocational student organizations can use field trips to the business and industrial community to study occupational careers. Field trips will broaden the awareness of career opportunities within a vocational field as well as help develop respect for the different types of jobs that are available within the community as a whole.

Speakers from professional and civic organizations can also enhance the development of leadership knowledge in a vocational student organization. Leaders from these groups can inform students about their roles within the development of the community and relate the objectives of their organizations to the goals of the vocational student organization.

Students can learn communications skills contacting the field trip guides and the speakers who participate in the program of a vocational student organization. Students should introduce the speakers, make closing remarks, and write thank-you letters after completion of the activity. Students can become more articulate speakers by giving speeches to community organizations about their goals and activities. In addition, utilization of the news media—newspaper, radio, and television—can serve as a good public relations tool in developing a positive image about the student organization as well as the vocational program it represents.

Implementing business and industrial terms into the projects of the student organizations will help make activities more meaningful to students. For example, instead of calling a moneymaking project a bake sale or a raffle, use a profit-motive business such as a bakery (bake sale), a farmers' market (farm products sale), survival kits (first aid kits sale), or a restaurant (soup or pancake supper). Develop the project just as one would set up a business. A soup supper can be a "Soup House" owned by the stockholders (members) of the corporation (vocational student organization) who elect the board of directors (officers) who prepare the proposals (project) to be submitted to the stockholders (members) for adoption. After the project proposal has been approved (soup supper), the president selects a general manager (project chairperson) who selects the staff (committee) that plans the strategy. The office manager and the staff (finance committee) plan the budget, select a location (based upon geographic, cost, safety, and health needs), authorize the purchases of food and supplies, record the receipts, pay the expenses, and prepare the financial statements. The sales department (publicity committee) adver-

tises the product and makes the sales (tickets). The food service director and the staff (food committee) plan the menu, select the cooks, determine the servers, select the dishwashers, and appoint the custodians. The staff members (committee members) report to the department heads (committee chairpersons) who report to the general manager (project chairperson) who reports to the board of directors (officers) who evaluate the project and report to the stockholders (members). Following a management flow chart similar to the one just described is not difficult. With this management system, the goals are established; the decisions are made; and the students have an opportunity to practice the profit-motive concepts of the business world.

CONCLUSION

There is more to vocational education teaching than just instruction in entry-level skills. Welding, selling, and cooking skills may secure a job for the student, but they do not guarantee that the student can *keep* the job. Vocational student organizations can teach students to become responsible, productive citizens and leaders in our work force. All individuals must develop confidence, respect, and esteem; they must establish goals; and they must learn how to make decisions. The adviser of a vocational student organization must establish a learning environment, serve as a consultant, and work with students to give them the encouragement and confidence to become professional leaders. During the 80's vocational student organizations can be an effective learning medium in vocational education and they should be included as an integral part of every vocational program curriculum.

TWELVE

Energy: Expectations of the Future

H. Cecil Beggs and Joe Gliem

Some futurists divide the future into predictable and unpredictable tomorrows. Such a definition implies that people have a degree of control over what happens tomorrow. Within the past three decades there have been as many changes in our lives as those occurring in all previously recorded history. Change is one of the few certainties in today's world. Although change is expected, sometimes it is difficult adjusting to the accelerating rate with which it occurs. According to Arnold H. Glasgow, a noted futurist, "The trouble with the future is that it usually arrives before we are ready for it." This premature arrival of the future creates a disorientation and an inability of people to adjust. Situations created by the energy crisis are excellent illustrations of adjustments required by rapid changes.

During the winter of 1973 when the energy crisis affected the personal lifestyles of most Americans, energy was at the forefront of national consciousness. Entire cities darkening because of electrical blackout and long lines at gas stations were new experiences for most of us. The contemporary history lesson was spawned by the nation's press forecasting doomsday energy conservation advice. Our insatiable energy appetite constantly placed additional demands on the known energy resources. Suddenly, this physical problem impressed upon the

country that exponential growth is not forever possible in a finite world. The energy crisis is real. It is a physical problem which has generated uncertainties about the future, changes in today's lifestyle, and challenges for a problem-solving society.

Historically, the U.S. educational system has responded to societal advancements and human problems. After the energy problem touches the lives of all people, it is very significant that the educational system be involved in efforts affecting our destiny. There is no better time or place to begin than in today's schools with students who will be tomorrow's adults. It is their lives which will be affected by the energy practices and policies of the present.

Now is the time for the educational system to accept the challenge for preparing tomorrow's society—a society adaptive to new energy technology and conservative of present energy resources. And what better place than the schools to generate the action needed to help our society deal with energy problems.

The transition from an economy based on oil to an economy based on diversified energy sources has emerged as one of our nation's most critical issues. As a society, we must be able to cope with the energy situation and at the same time be prepared to contribute to its solution. Many leaders in education and energy conservation suggest providing energy-focused instruction as an ongoing educational activity. However, the educational system must remain aware of the swift-changing energy use patterns, priorities, and applications of new technology. Students, both young and old, must be provided more than meager lists of helpful hints on energy conservation. If we are to be prepared to cope with the challenges wrought by the energy problems and instigate meaningful conservation practices, everyone must understand the following:

1. What energy is
2. Where energy comes from
3. Who are the users of energy
4. Why and how energy is used
5. What are alternate sources of energy
6. What are the technology and humanpower requirements for producing, managing, distributing, and using energy.

The preponderant use of energy in the United States is determined by the decisions that people make. Such decisions are represented partly by their direct uses of fuel and electricity and partly by their selections

of goods and services. Changes in the availability and prices of energy may soon require further and more significant adjustments in the amounts of energy that we use. The problem, therefore, is how to make these adjustments in ways that will cause the least disruption in our lives. Now that it is becoming more generally evident that the energy problem is a reality, it is important that we (1) become more energy efficient, (2) provide leadership to the transition from a cheap energy economy to an expensive energy economy, (3) become technically prepared to manage and service the energy resources.

Thus energy education must focus not only on the conservation of energy but on energy awareness and occupational training. Some people define energy education as the teaching of basic concepts and facts about energy phenomena. Others define it as promoting energy conservation wherein the goal is not only learning facts and concepts but taking appropriate action as well. In both cases, the arguments for such educational programs seem to be based on responding to dwindling energy supplies and technological advances. However, it is the knowledge, abilities, and personal commitments of individuals that will permit successful responses to the energy crisis. In context, energy education may be perceived as part of the general process of social education. Thus in dealing with energy issues we can sort our value priorities and assert truly human values in a mass, technological society. This often overlooked, but equally important, aspect of the energy knowledge base describes the interrelationships between daily behavior and energy use.

Energy education should be available to all citizens—children, youth, and adults. With a disciplinary knowledge base, it should include the competencies necessary for persons to function as citizens and as national consumers. Such an educational program provides not only components leading to inquiry into the energy phenomena but philosophical inquiry relating the issue of human rights to energy problems. As a result of such an educational program each person should achieve some level of awareness and understanding concerning the energy problems. Also each person should know when and how to conserve energy in order to achieve personal life goals and at the same time contribute to society's energy conservation.

The most challenging of all the aspects of energy education is training people for the growing job market. Vocational-technical education must provide the instruction for students to develop basic skills in energy-related occupations and new competencies which are added to the list of basic skills traditionally taught. This task is particularly suited for vocational-technical education since it has traditionally contributed to meeting the humanpower needs of the nation. Preparing skilled

workers for occupations in the emerging energy technologies will require some significant changes in vocational-technical programs. For example, programs will have to be tailor-made for each section of the country depending on the energy resources available. After our nation's economy depends upon the ability of the work force to continue to produce more goods and services, it is critical that individuals have the necessary skills to get the job done. Continued emphasis on providing the necessary training must be coupled with the development and implementation of new technologies. We do not yet know what new technological and environmental problems we may encounter tomorrow, but experience has taught us to expect them. The possibilities are tremendously exciting. At present scientists are exploring ways in which to expand several major but little-known energy sources. These include geothermal, solar, wind, water, tidal, and nuclear energy, as well as that produced from biomass. Each source requires trained technicians in the research, design, construction, implementation, and operational phases. New curricula for training these technical workers will have to be prepared in many of the new technologies. In others, updating existing curricula will be sufficient.

Perhaps the first priority is not to train people for new technologies but to manage the energy problems now crowding in. Transportation, industry, residential and commercial sectors, electric utilities, and environmental protection provide opportunities for existing capabilities and technology on which short- and mid-term improvements must be based for reducing energy consumption within the next decade. Many of these energy-efficient technologies will require the retraining of workers. Training programs will need to provide an adequate labor force to perform tasks involving installation, operation, maintenance, and energy consumption monitoring.

In spite of many pronouncements and assumptions about how and why we use energy and about how we could change these uses through economic adjustments, rather limited data and factual information are available. Of course the public has not totally neglected energy conservation. Conservation has been evident in the greater use of public transportation, reduction in travel, lower thermostats in winter, and open windows in summer. Energy conservation seems to be a matter of immediate national importance. Linked with energy conservation is the need for understanding and appreciating the energy problem and the technical humanpower to support and service new energy technology. Education, especially vocational-technical education, can make a substantial contribution to the nation's energy problem. Through energy awareness, conservation and technological training programs, vocation-

al-technical education can bridge the gap between societial needs and advances in the technologies for producing synthetic fuels and renewable energy.

We are indeed at an energy crossroads. We are in fact in a situation never before confronted by the people of this nation. We have suddenly found ourselves running out of some of the very basic ingredients that have provided us with the abundant, inexpensive energy that has helped feed, clothe, and maintain the peace of our country. We find that there is an end to the fuels so long taken for granted—to transport us, to feed us, to heat us, to do our work for us. The realization of this fact has angered, confused, and frightened many people. The expectations of the future rest in the hands of energy resources and education.

THIRTEEN

Human Resources and Changing Technology

Leonard Starry

INTRODUCTION

The topic suggested in the title of this article is interesting and challenging for several reasons. First, it suggests a look to the future. Always a difficult task, each day it becomes even more risky to try to forecast future events. If, at the turn of the last century, for example, someone had attempted to predict the world situation in 1980, the chances are good that the events of recent years would have made the prediction extremely inaccurate.

Second, the title includes the word *technology.* This word is one of the "in" words of today, and rightly so. However, it means something different to each person—to some, tools and machines; to others, sophisticated equipment such as computers, space vehicles, lasers, and satellites; to still others, all of this and much more. Thus there are numerous definitions for technology.

Third, the title contains the phrase *human resources.* The human element is the most important ingredient in all human endeavor, but the intent here will not be to place human resources in the same context as material resources such as steel, cement, water, and wood, or energy resources such as coal and oil. Rather, it will be to consider human

resources as human development for all life roles, including the career role, because of the close relationships of human activities.

As a result, this article will briefly trace changing technology from the past to the future, discuss the implications for human resource development, and suggest a major role for vocational education in the future.

TECHNOLOGY

For purposes of this discussion, technology is defined as *devices and systems that extend human potential.* Using this definition let us examine technological development. Far back in time and not so far back in some cultures, stone and bones became tools and weapons. The simple tools were used to devise shelters, till the soil, and improve food-gathering techniques. Buoyant materials lashed together became vehicles for water transportation, and made mobility possible for people and materials. Symbols took on meaning and were organized for communication. Groups organized into tribes with structure and leadership. As a result, with these devices and systems—technology—people were able to do things they could not otherwise do.

Looking along the technology development time line to more recent centuries, we see significant developments such as steam power, textile looms, high-production agriculture, electricity, the automobile, air travel, and vastly improved communications, to mention only a few. During this same period the United States emerged as a new country with a set of democratic ideals and a unique system of government. Again, technology was an extension of human potential. Looking back only a few short years in our own century, we find additional developments including jet propulsion, nuclear energy, instantaneous world communications, space travel, computers, automation, microelectronics, lasers, life-extending medicine, an organized labor force, and high-production capabilities.

In a speech a colleague summarized the technology development time line and the rapid development rate during recent years with an interesting example. As a boy, not too long ago, he remembers sitting on his grandfather's knee on a farmhouse porch listening to his grandfather's recollections. Now, in retrospect he realizes that more significant changes took place during the lifetime of this one man than previously occurred back to the time of the Roman Empire. Couched in such terms the recent rate of change indeed seems awesome.

There are several views concerning future technological develop-

ment. Among these views, one holds that no significant development is likely until after the turn of the century. According to this view, modifications will be made in existing technology but nothing of the magnitude of the flying machine or the computer will come along for the next several decades. Another view suggests that too much capital is going to government, leaving little for investment in new technology, and a society unwilling to take some risks will not make much progress.

Despite these views, however, certain areas may experience changes. Given the current energy situation and the gloomy outlook in the near future, for example, it seems likely that a major development could occur in technology associated with energy conversion, storage, and control. Another area much in need of a major development is that of worldwide diplomacy. It is hoped that, before the turn of the century a system can be implemented to reduce world tension and to minimize the constant harassment among the inhabitants of spaceship earth. Both of these areas are, of course, extremely complex with a tremendous number of additional interrelated problems and implications.

An unknown factor at this time with a possible impact on technological development is that of national priorities. For example, if an administration established a goal similar in scope to that of the 60's to place people on the surface of the moon, there could be another surge of space development. Or if the federal government established an energy policy that included an emphasis on developing alternative energy conversion systems, then additional development could also occur in that area.

TRENDS

As social conditions change along with technology, it becomes very difficult to determine the career roles that people will perform and the general demands that society will place on all individuals. For a variety of reasons, a growing number of women work outside the home in wage-earning occupations—in many instances in nontraditional areas of employment. This trend, bringing more people into the labor pool and with a variety of skills, has effects that reach beyond the paid workday. For both men and women traditional roles are changing in overall life functions as well as career roles. As noted in the introduction, it is difficult to discuss human resources considering only career roles because most human activities are interrelated.

In addition to the shifting work roles of the U.S. population, other factors are causing changes in the work force; for example, the influx

of noncitizens and the availability of more people for some jobs. Unemployment among minority youth is already very high; however, fewer young people will be available for employment as a result of stabilizing and declining birth rates. Business, industry, the armed services, government, and institutions of higher education will be competing for a shrinking pool of young people. At the same time, the existing work force is getting older. And as life expectancy continues to increase, there will be a greater need for human services, thus creating employment opportunities in service-related occupations.

The demand for services and goods will continue to expand. Because the production of goods can more easily be automated than can the production of services, this is another reason for the likelihood of more opportunities in service-related areas of employment. Among the services in demand will be that of providing and managing information. A vast amount of information is currently available and the quantity is increasing daily. The demand for quality information is also increasing. Systems exist and are being developed, mostly computer-related, to manage information. People will need an ability to use information for personal as well as occupational use. Many will agree that ours is no longer a traditional industrial society but possibly an information- or knowledge-based society.

The lack of inexpensive energy could also cause a shift in employment trends. In some instances, energy-intensive industries will need to look to new sources and methods of energy conversion. The development of related technology could provide new opportunities. When moving people about becomes prohibitive, communications could replace much business travel. And for recreation, people could begin to travel to a single location and return rather than continuously move about.

IMPLICATIONS FOR VOCATIONAL EDUCATION

As mentioned earlier, the future is difficult to forecast. Technological developments, not always foreseeable, are often influenced by national priorities or crises. Many are prompted by the need to improve current methods of competition. To some extent, human resource requirements and human needs are determined by developments in technology. All this uncertainty has several important implications for vocational education. A major implication is the need to search out factors that are reasonably certain about technological developments and determine the human qualities necessary for people to live with, work with,

and give direction to a change-oriented society—a society where change is considered a way of life rather than a disruption of life. The challenge for vocational education and all education is to help students prepare to deal with change.

In order to function in a technological, change-oriented society, people need certain basic qualities and skills. Many of these qualities and skills can be developed through vocational education—some are already being developed, others are not. As stated earlier, the use of information is becoming increasingly important. Because it is not possible to possess all the knowledge necessary in all situations, it is basic to know how to get information. As a communication skill, students should be able to determine what kind of information they need, how to get it, and how to use it.

Human relations skills are also important. The ability to relate to people is extremely necessary in all areas of human activity—business, industry, family, community, government, and education. Some vocational subject areas regard this competency among the most important for career success and emphasize helping students develop it. Communication can also be considered a part of human relations skills.

One way to develop a skill is, of course, through practice. In order to develop human relations or communication skills, then, students must be placed in situations which afford them such opportunity. Cooperative education has served this function well but, unfortunately, not for all students, and sometimes only for those who need the experience least. Other activities can be devised for students to work in groups and share information with others. To ensure that proper practice will occur, however, students need instruction, just as they do in any other content area, in relating to and communicating with others.

Certain basic skills unique to an application, such as performing in an occupation, should also be taught. Vocational education has generally done a good job in helping students develop performance skills. In some instances, perhaps too much time is spent developing these skills and not enough time developing other employability and life skills. It is important to avoid spending an undue amount of time on skills already not needed or soon to become obsolete. Most vocational subject areas use advisory committees whose function in part, is to help determine what should be taught. Vocational educators will do well to sharpen their listening skills and objectively to weigh such advice as ". . . teaching too much 'wrench' skill." and "Why don't you help students improve their attitudes, their ability to get along with people, to solve minor problems, to understand the function of business, and how they relate, communicate, and use good judgment?" These are

employability and life skills. Yes, they are difficult to teach, but they are the kinds of skills that are needed now and that will be needed in a world of rapidly changing technology. Vocational education is in a unique position to help students develop these and other abilities.

Manipulative and cognitive skills will always need to be taught. Those most transferable to different situations will in all likelihood be useful to an individual for a long period of time; the more specific skills unique to a particular situation will be less transferable. As mentioned earlier, it is necessary to carefully distinguish those skills needed by all students in a program from those needed by only a few. The transferable skills needed by most students can be taught early in a program; the unique skills used only in specific situations can be taught to those who need them. A state-level advisory committee recently recommended, among other things, that students entering an area of employment should feel comfortable, in this case, around tools and materials. The committee suggested that more specific skills related to an area of employment can be taught by the employer on the job or through sponsored workshops. As circumstances change, there will always be a need for all vocational educators to participate in workshops and seminars to upgrade their skills. No program can completely anticipate students' future needs, but a properly designed program can develop transferable skills as well as a desire and an ability to continue learning.

Situations that cause people to deal with the unknown will be characteristic of the future, as changing situations are characteristic of life today. Students must be prepared to deal with new situations systematically. Problem solving skills can be taught much like any other content. If students are not often asked to solve problems but are given prescriptions that work in given conditions, when the conditions change, the prescriptions may no longer work. If, instead, students are taught to analyze conditions, propose and test possible solutions, evaluate results, and then report findings, they will gain knowledge applicable to many situations and useful for a long time. Thus, students can develop their problem-solving skills; and incidentally by reporting the solutions, they can also improve their communication skills.

Another ability useful in a change-oriented society is that of understanding the organization of businesses and industries. These enterprises will continue to exist, modifying their operation as needs change but with many functional elements remaining the same. Learning about these elements should be useful to students in several ways. For purposes of this brief discussion, the term *enterprise* will be used to describe profit and nonprofit organizations that exist to provide goods or services.

Apparently few young people have an understanding of our economic system. If this observation is true, involvement in a simulated enterprise experience in an instructional program should be helpful in gaining insights into the system. Experiencing an enterprise activity also gives students an opportunity to see the importance of all people in an efficient operation. Some employers believe this helps employees better understand the importance of their own contributions and, as a result, derive more satisfaction from their jobs. Another benefit is that working together can encourage students to develop a cooperative attitude and a sense of responsibility.

Finally, many vocational education programs are designed to prepare students to work for someone else. Yet, given some assistance and an opportunity, enterprising young people could wish, one day, to be the employer rather than the employee. This could occur more often than it does presently if as a part of the educational process students learned concepts of enterprise and gained more confidence.

CONCLUSION

This article has briefly discussed several ideas concerning human resources, changing technology, and vocational education. In no way is the subject matter treated complete or developed in detail. Some will agree with the content; others will disagree. In either case, however, my hope has been to stimulate some additional thought.

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